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The  
**CHEMIST AND DRUGGIST**

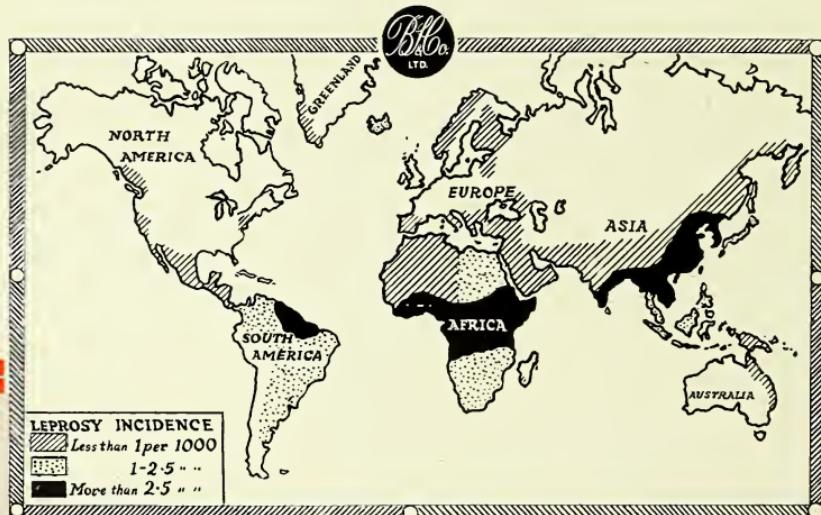
or RETAILER — WHOLESALER — MANUFACTURER

MARCH 17, 1951

SRH

Easter  
Greetings  
to all  
Pharmacists





## To those that dwelt in darkness has come a great light

The above map shows roughly the incidence of Leprosy throughout the world where more than five million people suffer from what until recently, could best be described as "that fell disease"—as those suffering from it were regarded as outcasts from their fellow men. Father Damien, by voluntarily incarcerating himself on the Leper Island of Molokai in the Hawaiian group, brought, by his self-sacrifice, the horrors of this disease to the consciousness of the civilised world. Then, towards the end of the last century, Dr. Armauer Hansen, working in the Leper colony of Bergen, discovered the bacillus of Leprosy, now known by his name. But cure there was none—all that could be hoped for was possible alleviation.

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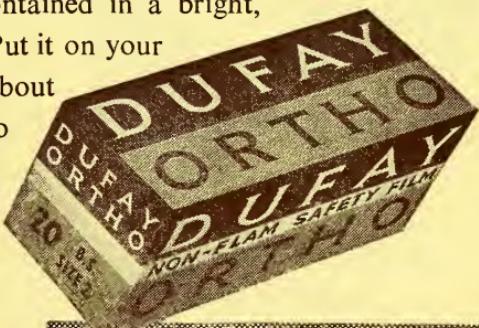
The more Dufay Black & White films you sell—the more chances you have of a cash prize!

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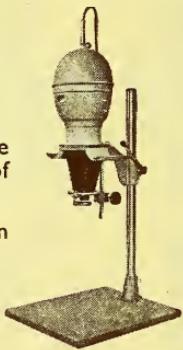
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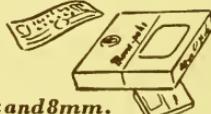
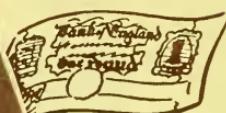
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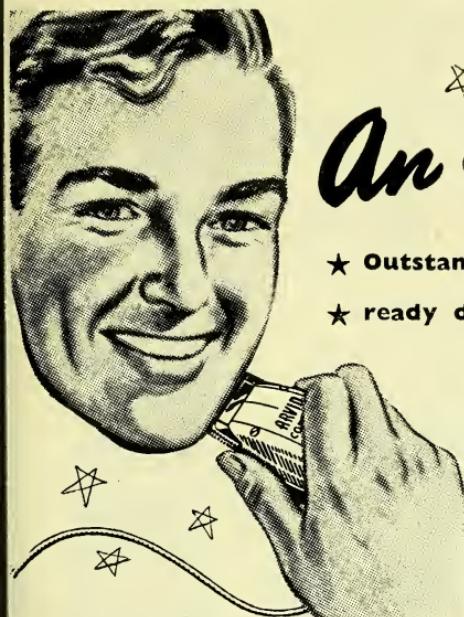
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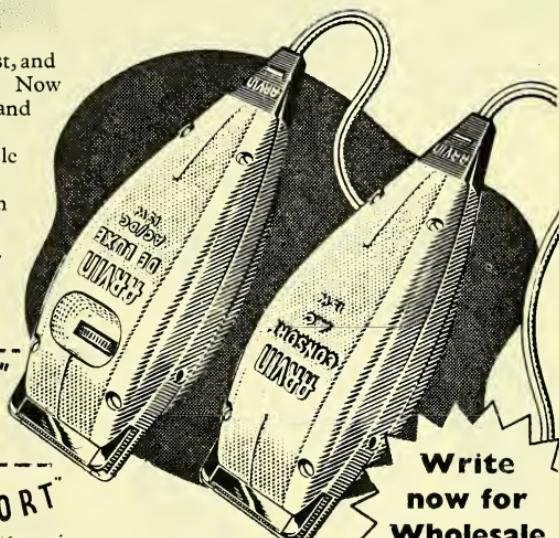
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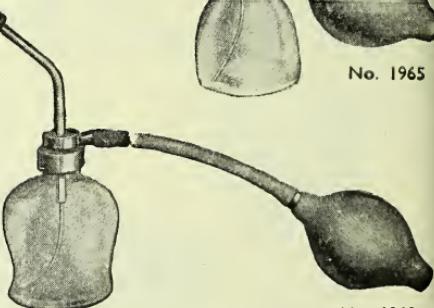
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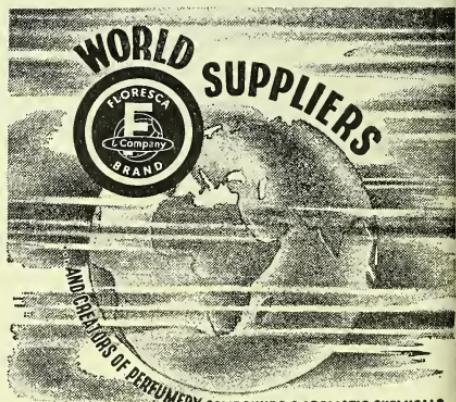
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# The CHEMIST AND DRUGGIST

for RETAILER — WHOLESALE — MANUFACTURER

MARCH 17, 1951

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## NEWS OF THE WEEK

**Lamps Freed from Tax.**—A Treasury Order (S.I., 1951, No. 271) effective from February 26, exempts from purchase tax electric lamps suitable for use in projectors or slides and film strips.

**U.S.D.A.W. Delegate Conference.**—The union of Shop, Distributive and Allied Workers is holding its fifth annual delegate meeting at Blackpool, March 25-27, when a report, "A Planned Distributive Economy," will be presented.

**Retail Trade in January.**—Board of Trade returns show that retail sales for the month of January in independent chemists' shops were 8 per cent. higher, and large-scale retail establishments, 16 per cent. higher than for January 1951. Compared with December 1950 the sales were 1 per cent. and 47 per cent. lower respectively.

**Examinations in Salesmanship.**—The United Commercial Travellers' Association to hold its examination in salesmanship in London and various provincial centres on June 30. The examination will cover a comprehensive knowledge of sales-

manship and a general knowledge of sales organisation. Entry forms are obtainable from the Association, 180 Tottenham Court Road, London, W.1, and should be returned before March 31.

**Photographic Exhibitions.**—The Royal Photographic Society's contribution to the Festival of Britain will be an exhibition at 16 Princes Gate, London, S.W.7, from May 15 to July 15, to be divided into sections covering the historical development and scientific applications of photography, and the place of photography in everyday life. The Society's 96th annual exhibition is being held at the same address, September 14 to October 14, after which it will be transferred to Scotland.

**Hospital Pharmacists' Salaries.**—At a meeting of Committee C of the Pharmaceutical Whitley Council on March 1 it was agreed to adopt the principle of weighting the salaries of pharmacists employed in hospitals situated in the Metropolitan police area. The amounts agreed upon are as follows: (a) Up to the age of 25, £20 per annum; (b) over the age of

25 and on salaries up to £800 per annum, £30; (c) on salaries over £800 per annum, £40. Payments are to be dated as from March 1, 1951.

**Registered Pharmacists' Union.** — At the annual meeting of the Registered Pharmacists' Union, held recently, Mr. G. H. Armitage was re-elected *General Secretary*. Membership numbers were the same as in 1949 and the credit balance showed the financial position to be strong. The Council's and treasurer's reports were passed with votes of thanks to the officers. The following resolution was passed *nem. con.* by members present:—

"That it behoves any organisation, if it intends to become progressive, strong, and do the greatest good for the largest number, to seek unity of purpose. In view of the 'Closed Shop' aspect which the R.P.U. had encountered in other pharmaceutical organisations, a deputation from the R.P.U. consisting of the general secretary and treasurer should renew contacts with officials of the British Association of Chemists, in the near future, the outcome of the meeting being referred back to the R.P.U. Council for consideration. It is considered that the objects, aims, and the fact that the B.A.C. is non-political and a registered trade union make common ground for exploratory discussions."

## LOCAL NEWS

**Joint Meeting at Plymouth.** — A joint meeting of the Plymouth Branches of the National Pharmaceutical Union and Pharmaceutical Society, held on February 15, was addressed by Mr. D. M. Jennings, M.P.S. (superintendent of the South-western Pricing Bureau).

**Protest Over Delayed Payments.** — The Devon and Exeter Executive Council at a meeting recently decided to protest to the Ministry of Health at the time lag in payment of chemists' accounts. Mr. H. Jarvis Graves, M.P.S., pointed out that chemists in the region had been paid up to February 1950 only.

**Lecture for Pharmacists.** — A series of four lectures has been arranged for members of the Tunbridge Wells Branch of the Pharmaceutical Society by Mr. F. H. Summers, M.P.S. (Queen Victoria Hospital, East Grinstead). The first lecture entitled "Recent Advances in Antiseptics and Disinfectants" was given on February 20, by Mr. A. J. Douglas (Ciba Laboratories, Ltd.).

**Warwickshire Branch Annual Dinner.** — About 130 members and friends attended the annual dinner and dance of the Coventry and Warwicks Branch of the Pharmaceutical Society, held in Coventry

on March 7. The guests included the lord mayor and lady mayoress of Coventry and the chairman of the local branch of the British Medical Association. Mr. W. A. Bales (Branch president) was in the chair. During the dance numerous "spc prizes" were presented by Mrs. Bales.

**Vanload of Drugs Stolen.** — A van filled with drugs belonging to Reynolds & Branson, Ltd., Leeds, was stolen from the garage of the company's warehouse during the week-end March 10-11. About half of the missing dangerous drugs were recovered, however, when the van was found abandoned in Hunslet, Leeds, on March 12. A quantity of opium and morphine were still in the van, but the following are missing. Omnopon ampoules, 3,000; cocaine hydrochloride, 1 $\frac{1}{4}$  oz.; morphine tartrate 2 $\frac{1}{2}$  oz.; morphine sulphate, 8 oz.; and thirteen new cameras.

**Aberdare and Merthyr Officers.** — At the annual meeting of the Aberdare and Merthyr Branch of the Pharmaceutical Society held at Merthyr on February 2 the following officers were elected:— *Chairman*, Mr. B. Walters; *Vice-chairman*, Mr. D. L. Emrys Evans; *Junior Vice-chairman*, Mr. A. Bloom; *Treasurer*, Mr. A. B. Andrews; *Secretary*, Mr. T. James; 8 Bryn Terrace, Cwmdare, Aberdare, Glam; *Social Secretary*, Mr. C. H. Clarke; *Social Treasurer*, Mr. E. R. Thomas. During the evening tribute was paid to the retiring secretary (Mr. H. Noel Thomas) for his twenty years' service to the branch.

**Portsmouth Discusses the Charter.** — Portsmouth Branch of the Pharmaceutical Society, at a meeting held on February 23, with Mr. N. Francis in the chair, discussed the proposed supplemental charter of the Society. Mr. E. E. Matthews, who opened the discussion, said that the proposed Fellowship would benefit the Society and increase the stature of the profession if provided entry was properly safeguarded. The present practice of handing out the Ph.C. diploma to graduates in pharmacy after passing an examination in forensic pharmacy should not be copied. He mentioned that there was no reciprocity between the universities with their degrees and the Society with its diplomas, and he felt that the Fellowship should have parity with a high university degree. Mr. Matthews moved the following resolution:—

"That...the following words 'and which have not been the subject of award by any other body' should be added after 'and also members w

ave made outstanding original contributions to the advancement of pharmaceutical knowledge' Section III paragraph 5 of the proposed Constitution."

This would bring the matter into line with the similar wording used for the Ph.D. degree. Mr. J. C. Bloomfield seconded the resolution which after a lively discussion was carried by twenty-one votes to two. A second resolution was carried unanimously:—

"That... the following by-law should be substituted for by-law 4 as now constituted. The Council may designate as Fellows of the Society such members of the Society as satisfy the examiners in each of the Society's examinations in pharmaceutical and allied subjects as the Council may from time to time prescribe."

A resolution moved by Mr. S. Isherwood that the Society should promote the business and professional interest of its members was heavily defeated. A meeting of the Branch on March 2 was addressed by Mr. F. C. Wilson (vice-president of the Society), Mr. J. Elder (vice-chairman of the Branch) presiding. Mr. Wilson spoke on the proposed new charter and explained the reason for each new proposal. A vote of thanks was proposed by Mr. R. Clarke and seconded by Mr. J. W. Baxendale.

## SCOTTISH NEWS

**Scottish Case Prepared.**—The case for the Scottish pharmacists against the cut made in their remuneration for National Health Service dispensing has been completed and is to be sent to the Department of Health for Scotland.

**Dinner and Dance at Aberdeen.**—There was a record attendance at the annual dinner and dance of the Aberdeen Pharmaceutical Association held in Aberdeen on February 28. Among the guests present was Mr. C. W. MacFarlane (a member of Society's Council). The president (Mr. J. Neil) in his address thanked particularly those pharmacists who had travelled long distances to be present.

**Fife Branch Proposed.**—At an area meeting of the Edinburgh and South-Western Scottish Branch of the Pharmaceutical Society held in Kirkcaldy on February 11, Mr. F. Hepburn speaking on "Pharmaceutical Aspects in Fife" drew attention to the geographical situation of the area being ideal for the formation of a Fife branch. Mr. A. M. McKellar, Cowdenbeath, said that local associations in many of the towns and districts of Fife, which are doing an "excellent job," could be useful in furthering any branch organisa-

tion. The motion to consider the formation of a Fife Branch was moved by Mr. W. Reid, Cupar, and seconded by Mr. F. S. Rennie, Dunfermline. A subcommittee was elected to consider the question and report back to the parent branch.

## IRISH NEWS

**Ulster President "At Home."**—Mr. H. W. Gamble (president, Pharmaceutical Society of Northern Ireland) was at home to members on March 13 when a team consisting of himself, Mr. C. W. Young, Belfast Technical College, and Mr. J. N. Patterson (pharmacy inspector) answered questions on the Health Service, pharmaceutical legislation and the work of the pharmacist.

**Ulster Pharmaceutical Employees.**—A special meeting of pharmaceutical employees was held in Belfast on February 21 under the auspices of the Associates' Section of the Ulster Chemists Association. Mr. E. G. Mackle (chairman) said that the purpose of the meeting was to increase the membership of the section. A discussion was held on the report of the Joint Council meeting and suggestions were put forward for more social activities.

**Irish Chemists' Golf.**—The Irish Chemists' Golfing Society is holding an outing to Carlow Golf Club on April 15 to inaugurate the 1951 season. The annual three-day outing is being held at the Rosslare Golf Club, co. Wexford, from May 28 to 30. The member having the best nett aggregate of four cards during the season is to receive a special prize at the Silver Jubilee dinner to be held in October. A minimum of five cards must be handed in to qualify for entry.

**Irish Drug Association.**—Under a new agreement concluded between the Irish Drug Association and the Chemists' Section of the Irish Union of Distributive Workers and Clerks, the clauses in the agreement of April 25, 1947, relating to conditions of work for employees in pharmacy, have been modified so that employees working on Sundays and public holidays must be compensated as set out in the agreement. The following have been elected members of the Irish Drug Association: Messrs. J. L. MacNamara, Rexall Pharmacy, Cashel, co. Tipperary; J. McEvoy, The Medical Hall, Ballinalee, co. Longford; D. S. Bennett, The Medical Hall, Cahirciveen, co. Kerry; and Miss Una Gleeson, 13 College Green, Dublin.

**Lecture Tour.** — By arrangement with secretaries of branches of the Irish Drug Association and the Irish Students' Association, Mr. A. R. G. Chamings (Ciba Laboratories, Ltd., Horsham) gave a lecture tour in Ireland recently. At Limerick, Tralee and Dublin he lectured on recent developments in the hormone field dealing with A.C.T.H. and cortisone, and illustrating his lecture with a film. In Cork he spoke on European pharmacy, dealing particularly with pharmaceutical education in the United Kingdom. The lectures were attended by pharmacists and doctors and were followed by lengthy discussions which frequently continued until nearly midnight.

**Ulster Chemists' Association.** — A meeting of the Joint Council of the Ulster Chemists' Association was held in Belfast recently to discuss rota service, the Arbitration Tribunal hearing and disciplinary action. The employers' representatives did not recommend the fixing of payments for rota service but agreed to bring to the notice of members the provisions of the U.C.A. terms and conditions of service regarding overtime and the provisions of the shops Acts regarding statutory holidays. The questions of the Arbitration Tribunal hearing and disciplinary action were discussed together and it was felt that further investigation into the U.C.A. rules was necessary before reaching an agreement. It was arranged that another meeting of the Joint Council should be held at an early date.

**Ulster Associates' Committee.** — At a meeting of the Associates' Committee of the Ulster Chemists' Association, the following applications for membership were approved:—Pharmaceutical chemist: Mr. F. J. I. Jackson; assistants: Messrs. A. McQueen and C. O'Kane; apprentices: Mrs. Eileen Johnston, Miss B. Murphy, Messrs. J. E. M. Gamble, W. R. M. Hunter, R. W. Magowan, W. A. McCready, J. T. Twomey and D. Shearan. In response to a letter from the Pharmaceutical Society of Northern Ireland it was agreed that the name of Mr. E. B. Williamson should be submitted for membership of the Northern Ireland Chemists' Benevolent Fund Committee. Miss C. Bradley was co-opted as a students' representative. The resignation of Mr. J. McGivern was accepted with regret. The chairman (Mr. E. G. Mackle) said that Mr. McGivern had been a member of the section from its earliest days.

## OVERSEAS NEWS

**International Photographic Exhibition.** — A photographic and cinematographic fair and exhibition ("Photokina"), at Cologne, April 20-29, is open to photographic and cinematographic organisations from countries.

**African Malaria Conference.** — The first African Malaria Conference opened in Kampala, Uganda, recently. The conference, which is convened by the World Health Organisation, is being attended by experts from nearly twenty surrounding territories. It is to be followed by a meeting of the W.H.O. Expert Committee on Malaria to study the effects of D.D. spraying as an anti-amarial measure.

**U.S. Research Scheme.** — The U.S. Public Health Service has allocated millions of federal funds to finance a search on ACTH and cortisone. Through the grants the government is to aid a search into the synthesis of and substitutes for those products. Five companies holding important patents used in cortisone production have signed an agreement that will, in effect, place their patents in a licensing pool.

**State to Grant Qualification.** — It is understood that the Government of Alberta, Canada, intends to take over from professional associations their power to grant licences to practise. To overcome the charge that existing professional bodies are "closed shops," it is proposed that a person may enter Alberta and practise a profession "if properly qualified." The Hon. C. E. Gerhart (provincial secretary) himself a pharmacist, said that the present method of licensing was comparable to having automobile licences granted by automobile club or association.

**Polish Pharmacies Nationalised.** — Privately-owned chemists' shops in Poland have been taken over by the Government. While the change was effected 1,500 pharmacists continued working and qualified assistants were sent to fifty-seven pharmacies previously closed. The Government's aim is to control supplies of drugs, the location of shops and distribution staffs. The Under-Secretary of State, who moved the Bill giving effect to the change, declared that "private" chemists though qualified were unable to carry out the tasks. That was shown, he said, by the fact that existing nationalised pharmacists, representing only 20 per cent. of the total, were distributing 50 per cent. of the drugs.

## TOPICAL REFLECTIONS

### pharmacists Unevenly Placed

Addressing the East Metropolitan Branch of the Pharmaceutical Society recently, the president of the Society made a vigorous reference (p. 297) to difficulties arising from the uneven distribution of man-power in pharmacy. Most readers of your report must have been stimulated to reflection by his statement that "fewer, larger and better-equipped shops would make for more economical use of man-power." For several years past we have been witnessing the enrichment, with a few exceptions, of small and medium-sized pharmacies from main streets to thoroughfares where rents are lower: it would be interesting to see the process reversed and shops of this class taking more prominent positions again. The president's point was that longer hours of service could then be given without increasing individual hours of service. That is so; but would the policy of larger shops be justified without fuller experience of the National Health Service? The information that in industrial areas some proprietors of pharmacies have "not had a day off for years" will come as a shock to others more favourably placed. Sooner or later unrelieved work wears down even the most robust. Coach horses on the Bath road into London, a century or more ago, are said to be the most tired of any coach horses, the explanation being that the road was more level than any other approach. Mr. Meldrum's remark that pharmacists are not adequately represented in public life confirms earlier observations. Aptitude, natural or acquired, for such work is, however, one requisite, and spare time is another. It would be unfair to expect anyone who has not had a day off for years to give up more spare time.

### imits of Deviation

Mr. C. L. Sargent's monograph on the H.S. drug-testing scheme (pp. 300-03) deserves the space you have allotted to it. Statistical approach to a question of this kind can hardly fail to yield valuable results; and the author's figures are well calculated for the purpose. Taken as a whole, the data confirm the favourable view of panel dispensing expressed by a former minister of Health some years ago, when the National Health Insurance Acts were in force. The Minister praised pharmacists for the very small proportion of substantial errors, which then stood, if memory serves,

at about four million prescriptions. On examining Table I on p. 301, I notice that an old offender in dispensing, ammonium carbonate, comes out with an average percentage deviation, in seventy-one samples, of 3.94. In Table II, however, there is a rise to an average deviation of 34.53 per cent. in fourteen samples. The difference is so considerable that one can understand such cases as those in Table II being referred to Service Committees. A similar ratio is found between the results of 406 samples containing sodium bicarbonate (Table I, average deviation 2.37 per cent.) and twenty-six samples with the same ingredient (Table II, average deviation 29.25 per cent.) In cases of the latter type one suspects that stock solutions, of uncertain age, have been used. There seems to be little point in combining results taken from these two tables and forming a third table from them, especially as the number of first-rate samples so much exceeds that of second-rate samples. Mr. Sargent's discussion of comparisons on the same lines obtained by Mr. S. W. Goldstein in an American journal adds to the importance of his survey.

### H. C. Oersted

The account by Professor H. Baggesgaard Rasmussen of the career of Hans Christian Oersted (pp. 309-10) is as attractive as it is authoritative. It has sometimes occurred to me that we do less than justice to men of science who have lived comparatively near our own century: it seems as if they are not sufficiently "period" to be fully appreciated. Oersted was a pharmacist and a son of a pharmacist, a fact that renders his success the more interesting to us. Some readers may receive a surprise on seeing the tribute that he was "equally removed from the two vices, arrogance and humbleness." Here, however, it is obviously the Uriah Heep species of humility that is condemned. One of the most interesting circumstances mentioned by Professor Baggesgaard is Oersted's connection with Wöhler. Friedrich Wöhler, born near Frankfort in 1800, occupies a distinctive place in the history of chemistry by reason of his synthesis of urea, which he effected in 1828. Like many other discoveries, it came about in the course of experiments directed to other ends. After thus inaugurating a new branch of chemistry, Wöhler collaborated with Liebig. **Xrayser**

## COMPANY NEWS

**BOOTS PURE DRUG CO., LTD.**—Mr. I. J. Pitman, M.P., has been appointed a director to fill the vacancy on the board caused by the retirement of Colonel F. P. Braithwaite.

**BOOTS CASH CHEMISTS (SOUTHERN), LTD.**—Mr. A. H. Cragg, manager of Boots printing works and Mr. S. M. Peretz, publicity manager, have been appointed directors.

**VITAMINS, LTD.**—The directors propose to double the authorised capital and to capitalise £38,900 from reserve. By this means 778,000 unissued ordinary shares will be paid up in full for a one-for-two scrip bonus. A meeting is called for March 16 to place resolutions to give effect to the proposals before shareholders.

**LAPORTE CHEMICALS, LTD.**—To effect the simplification of the capital structure of the company the directors propose that the two classes of preference stock (6 per cent. cumulative "A" and 7½ per cent. cumulative "B") be merged into one class. The "A" stockholders would be compensated for the surrender of priority by the increase of their dividend from 6 per cent. to 7½ per cent. per annum. It is also proposed to increase the authorised ordinary capital from £1,825,000 to £3,825,000 by the creation of 8,000,000 ordinary shares of 5s. each. Resolutions to effect the proposals are to be placed before shareholders at an extraordinary general meeting on March 30.

**BORAX CONSOLIDATED, LTD.**—Treasury consent has been obtained to the capitalisation of £1,500,000 from undistributed profits and reserves. It is proposed that the capital of the company be increased to £4,400,000 by the creation of an additional 1,500,000 deferred ordinary shares of £1 each to be issued to holders of the existing deferred ordinary stock in the proportion of one new share for every £1 stock held. The new shares, which will be converted into stock upon their having been issued, will rank *pari passu* in all respects with the existing deferred ordinary stock and, accordingly, will rank for payment of any dividend to be declared on the existing deferred ordinary stock for the current financial year ending September 30. Resolutions to effect the recommendations will be placed before an extraordinary meeting following the annual general meeting on April 2.

**MANCHESTER OIL REFINERY, LTD.**—Group profit for the year to March 30 amounts to £351,212 (£141,380), before taxation but including depreciation and debenture interest. Taxation amounts to £197,637 (£80,060) leaving group profit of £153,575 (£61,320). Profit attributable to parent company, £151,343 (£66,789) of which £4,142 (£4,314) is retained in subsidiaries. Amount written off goodwill £4,668 (nil); written off other intangible assets, £20,000 (£20,898); preference dividends, £9,831 (£9,685); interim ordinary dividend, 10 per cent. £17,875 (none) proposed final dividend, 10 per cent. £17,875 (same). Dividends received from subsidiaries in respect of previous year, nil (£14,870). Transferred to taxation reserve £65,000 (£15,000). Balance carried forward in the parent company's accounts £26,059 (£14,107), and in subsidiaries accounts, £7,218 (£4,745).

### Appointment of Receiver

**DABRELSA, LTD.**, manufacturers of toilet preparations, etc., 15 Dryden Chambers 119 Oxford Street, London, W.1. R. M. Matheson, of 22 Queen Street, London E.C.4, was appointed receiver on February 19 under powers contained in debenture dated June 24, 1949.

### New Companies

**GRIMBLE & KENT, LTD. (P.C.)**.—Capital £10,000. To acquire the business of chemist carried on at 15 High Street, Boston, Lincs. Reginald Day, M.P.S., an Hilda M. Day, directors.

**J. H. RICHARDSON (CHEMISTS), LTD. (P.C.)**.—Capital £1,000. To carry on the business of manufacturing, wholesale or retail chemists, etc. Ann Richardson and Thomas Coates, M.P.S., directors. R.O. 173 Roker Avenue, Sunderland.

**TRANENTS (CHEMISTS), LTD. (P.C.)**.—Capital £500. To acquire the business of a chemist, now carried on by the executrix of the late George Tranent, at 8 Turnpike Lane, London, N.8. Ada I. Tranent and Leonard G. Tranent, M.P.S. directors.

### BUSINESS CHANGE

**H. W. HERBERT, LTD.**, 41 High Street Egham, Surrey, have acquired the business of Mr. F. H. Bailey, M.P.S., at 67 Stain Road West, and 22 Thames Street, Sunbury-on-Thames, and will trade as F. H. Bailey, Ltd., from March 31.

## LEGAL REPORTS

**Pethidine on Forged Prescription.**—At Oxford, recently, Cecil Frederick Price pleaded "Guilty" to obtaining from Timothy Whites & Taylors, Ltd., Queen Street, Oxford, a quantity of pethidine, value £2 10s., by virtue of a forged prescription. He was remanded for a week on bail while inquiries were made to see if he could be admitted into a home for treatment.

**D.D. Offences.**—At Newcastle-on-Tyne, recently, fines totalling £200 were imposed on Sadie Soulsby, a certified midwife, 15 Belgrave Terrace, Newcastle, who pleaded guilty to three charges of obtaining pethidine, and to attempting to procure the drug. Robert Leslie Douglass, 15 Belgrave Terrace, who pleaded guilty to four charges of procuring pethidine, was remanded on bail until March 20 for a medical examination. For the prosecution it was stated that the drugs had been obtained for the purpose of relieving Douglass of some of his pain.

**Judgment for Defendants.**—At Nottingham Assizes on March 5, Mr. Justice Lynskey gave judgment for the Peterborough Co-operative Society, Ltd., in a claim by John William Fowler and Sturton & Sons, Ltd., wholesale and retail chemists, 78 Bridge Street, Peterborough, who alleged by the plaintiffs that the Society, by demolishing the building next door to 78 Bridge Street in 1928, had taken away the support which the building was entitled to receive from an adjacent building. The plaintiffs claimed £473 towards the cost of building a new wall to support the premises and also damages for loss of value to the property, limited to £1,000. The judge said he considered that some support, though not substantial, might have been given by the Society's building, but he did not think the withdrawal of that building caused the damage on which the plaintiffs claimed.

**Pharmacy Act Summons Dismissed.**—At the North London magistrates' court, on February 9, Demetris Papas, Orient restaurant, Caledonian Road, London, N.7, was summoned for selling by retail an article comprising a substance recommended as a medicine—"The famous hang-over cure"—without a label giving the appropriate designation or active constituents. A plea of guilty was entered, but defendant did not appear. Solicitor for the Islington borough council said that on November

25 an inspector purchased at the defendant's café some packets of the "cure." The analyst found each tablet to contain approximately gr. 5 of aspirin. Holding up a card containing a number of packets, solicitor said that it was marked "Guaranteed 5 grains B.P." The card bore the words "Established over a Century. Still going strong. Thoroughly recommended by doctors, chemists and nurses. Famous medical discovery. Patrons all over the world take this famous remedy. Gives instant relief to the morning after." "That is obviously a recommendation of this as a medicine," said the solicitor. "In his favour, the thing for which he is offering a remedy is not a disease, but a self-inflicted wound," remarked the magistrate. He said that it was important that medicines should not be sold without disclosing the contents of the mixture but dismissed the summons on payment of £4 4s. costs.

## THE WEEK IN PARLIAMENT

By a Member of the Press Gallery,  
House of Commons

In a written answer to a question by Mr. W. S. SHEPHERD as to whether the President of the Board of Trade was aware that "many of our exports are being sold at prices that are too low having regard to the market conditions and the cost of our imports," Mr. A. G. BOTTOMLEY (Secretary for Overseas Trade) replied on March 6 that the excellent performance of United Kingdom exports during the past year had shown the prices generally were competitive. The Government's policy was to leave to the individual exporter, in the light of his special knowledge, the determination of the prices of his exports. "I am sure that individual exporters will not voluntarily raise prices to such an extent as to endanger their future trade," he added, "but, subject to that, an increase in export prices may be desirable to help balance our trading accounts."

### Hearing Aids

MR. F. J. ERROLL asked the Minister of Health on March 8 the total cost of the scheme for providing hearing aids for the deaf, and how many deaf persons were effectively using the aids. MR. H. A. MARQUAND (Minister of Health) replied that, in England and Wales, 118,699 patients had been supplied with Medresco aids and about 90 per cent. used them regularly. He could give no useful figure concerning total cost.

## MARRIAGE

**NUTTER—HARPER.** — On March 6, G. Nutter, Burnley, Lancs, to Dorothy Harper, M.P.S., 30 Townhouse Road, Nelson, Lancs.

## DEATHS

**BISSET.** — On March 5, Mr. William James Bisset, M.P.S., 49 Park Hill, Carshalton Beeches, Surrey (until recently of Kenton, Middlesex). Mr. Bisset, who qualified in 1931, was the representative of Duncan, Flockhart & Co., Ltd., in Southwest London.

**BLYTH.** — At Edinburgh, on February 18, Mr. Ian Mackenzie Blyth, Leith (only son of the late Mr. John Blyth, M.P.S.).

**BRITtan.** — On March 1, Mr. Thomas Bennett Brittan, M.P.S., 168 Unthank Road, Norwich, Norfolk, aged eighty.

**COLBECK.** — On March 1, Mr. Norman Colbeck, M.P.S., 113 Norton Road, Bournemouth, Hants, aged seventy-four.

**DRABBLE.** — On February 20, Mr. Thomas Lambe Drabble, Ph.C., 59 Albany Road, Southtown, Great Yarmouth, aged ninety-one.

**CATTO.** — At Sea Wynds, Nutley Close, Goring-by-Sea, Sussex, on February 22, Mr. Alexander Catto, M.P.S., aged sixty-six. Mr. Catto was in business at Ilford, Essex, for over thirty years, and also had a business in East Ham. He sold his Ilford business a few years ago, and the other in 1950. He was a past-president of the Ilford Scottish Association and Chamber of Commerce, and founder-president of the Ilford Rotary Club.

**CLEMENTSON.** — At Harefield Hospital, Middlesex, on March 3, Mr. Reginald Clementson, aged fifty-five. Mr. Clementson had been representative in South and West London for Potter & Moore, Ltd., for twenty-two years.

**GARDEN.** — At his home in Woodland Way, Mitcham, Surrey, on March 1, Mr. Angus McGillivray Garden, M.P.S., aged sixty-four. Mr. Garden had been in business as a chemist and sub-postmaster in London Road, Mitcham, for many years. He had been very active in local affairs, and was a past-president of Mitcham Rotary Club.

**HINDHAUGH.** — On December 29, 1950, Mr. William George Hindhaugh, M.P.S., 58 Newgate Street, Bishop Auckland. Mr. Hindhaugh qualified in 1914.

**JACKSON.** — On March 2, Mr. William Frederick Jackson, M.P.S., 70 Barrow Point Avenue, Pinner, Middlesex, aged seventy-four.

**McMILLEN.** — At Douglas, Isle of Man, on March 3, Mr. Edward McMullen (formerly senior representative of the Proprietary Articles Trade Association) aged seventy-five. Mr. H. E. Chapman (secretary, P.A.T.A.) writes: For nearly forty years, before his retirement in 1939, Mr. McMullen performed valuable work for the P.A.T.A. as a representative and canvasser and in dealing on the spot with difficult cases of price cutting and breaches of the Association's rules. His tact and discretion in handling these matters were outstanding. Chemists in all parts of the British Isles knew and respected him. To the P.A.T.A. he was a loyal and devoted servant and even during his retirement its welfare was one of his main preoccupations. Kindly considerate and courteous, he held the affection of all with whom he was associated in his work.

**SHAW.** — On February 18, Mr. William Alfred Shaw, M.P.S., 53 High Street, Harborne, Birmingham, 17, aged eighty-six.

**STURROCK.** — At Crofthead House, Neilston, Glasgow, on March 8, suddenly, Mr. John Jarroon Sturrock, M.P.S. (a director and superintendent of John McMillan, Ltd., chemists, Great Western Road, Glasgow). Mr. Sturrock qualified in 1903.

**TAIT.** — At the Western Infirmary, Glasgow, on March 6, suddenly, after an accident, Miss Nicholas Tait, M.P.S., formerly of Commercial Road, Ladybank, Fife. Miss Tait qualified in 1924.

**WAIN.** — On February 26, Mr. Clement John Wain, Ph.C., 16 Red Lion Square, Newcastle, Staffs, aged eighty-four. Mr. Wain was elected a freeman of the borough of Newcastle in 1935, after being an alderman since 1909. He was the silver medallist in *materia medica* at the Pharmaceutical Society's School of Pharmacy for the year (1899) in which he qualified as a Pharmaceutical Chemist.

**WHITWORTH.** — Recently, Mr. Wilson Whitworth, M.P.S., 148 Manchester Road, Rochdale, Lancs, aged seventy-seven. Mr. Whitworth qualified in 1897.

**WILLIAMS.** — On December 31, 1950, Mr. Thomas Hugh Williams, M.P.S., 32 College Road, Bangor, Carnarvon. Mr. Williams qualified in 1901.

## PERSONALITIES

DR. DAVID McCALL, resident secretary of the Pharmaceutical Society in Edinburgh, has been elected a Fellow of the Royal Society of Edinburgh.

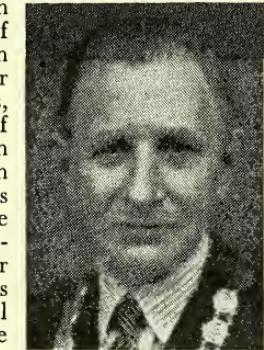
MR. JOHN NOBLE, M.P.S., completed fifty years in business at Gladstone Place, Leith, on February 18. Mr. Noble went to the business as manager immediately after qualifying on January 5, 1901, and bought the business on the eighteenth of the following month. He recalls working then from 8 a.m. until 9 p.m., with no half-day holiday, and Sunday work from 10 to

1 a.m., from 1 to 2 p.m., and from 6 to p.m. Mr. Noble is a past-president of the Edinburgh and Leith Chemists' Association, and in the first world war he was member of a committee set up in Edinburgh to aid dependants of servicemen who were short of money. He is president of Edinburgh and Leith Bowling Association, a member of Broomieknowe Golf Club and a past-captain of Edinburgh Chemists' Golf Club. He attends his shop daily and thinks the chemists today have too little "real" dispensing to do.

MR. A. FINNIS ATTWELL, M.P.S., author of an article on p. 360, was apprenticed in 1903, under Mr. Frank Harsant at his pharmacy in High Street, psom, Surrey (now Harsant & Lee). It was a "happy and sound" apprenticeship, he says, with hours 8 a.m.—8 p.m., a wage of 2s. 6d. per week increasing to 3s., a half-day off weekly and a fortnight's annual holiday. He lived in. He chose pharmacy as a profession mainly from "respect, wonder and fascination of carboys," of which Mr. Harsant's pharmacy windows were full. He retained that interest and later, in his Bournemouth business, displayed four carboys in the windows and five on the counters, and now after retiring he has four in his hall. Between the end of his apprenticeship (in 1906) and the time of his purchasing his Bournemouth business (1913) Mr. Attwell obtained dispensing (but little

photographic) experience in Bath, Buxton, Stratford-on-Avon, Edinburgh and Brighton. As a junior his wages were 30s. a week "outdoors" of which 15s. a week went in board and lodging. After qualifying at the age of twenty-one he received £2 per week indoors, sleeping under a night bell "as loud as Big Ben." A member of the Photographic Dealers' Association since 1926, he took the first steps which led to the formation of the Joint Council of Manufacturers and Dealers for limiting the spread of new accounts. He was made a Council member and, in 1930, elected president. Still on the council, he hopes to continue the work "for some time yet." Mr. Attwell retired in the autumn of 1950 and was subsequently entertained by the Bournemouth Pharmacists' Association at a dinner (at which he was made a presentation) held in his honour (see *C. & D.*, 1950.II.734).

MR. J. McDOWELL, M.P.S.N.I., who recently resigned from the Council of the Pharmaceutical Society of Northern Ireland because of ill-health, has been in pharmacy for over forty years, and for most of that time has taken an active part in its affairs. He was secretary of the local Pharmaceutical Committee for almost twenty years until the National Health Service



came into force in 1948, and secretary and treasurer of the North Irish Pharmacists' Association before it emerged with the Ulster Retail Drug Trade Association (now the Ulster Chemists' Association) of which he was president in 1931. He has served as a member of the executive committee of the Ulster Chemists' Association, and has been a member of the Council of the Pharmaceutical Society of Northern Ireland since his election in 1935. Mr. J. McDowell served his apprenticeship with Davidson & Murray, Mountpottinger, Belfast, and in 1914 set up in his present business in Newtownards Road, Belfast. He advises pharmacists: "Take an interest in your profession and you will find much added pleasure."

## PROPRIETARY ARTICLES TRADE ASSOCIATION

### Alterations to Protected List (Part 1).

*J. C. Eno, Ltd.*, Eno's Fruit Salt, 19s. 2d. doz., tax 33½ per cent., i.r.p. 2s. 6d.; 32s. 6d. doz., tax 33½ per cent., i.r.p. 4s. 3d.

*Evans Medical Supplies, Ltd.*, Cascarmat, 2 fl. oz., 34s. doz., tax 33½ per cent., i.r.p. 4s. 8½d.; 8 fl. oz., 102s. doz., tax 33½ per cent., i.r.p. 14s. 2d.; 40 fl. oz., 39s. doz., tax 33½ per cent. Glow-well liniment, 16s. doz., tax 33½ per cent., i.r.p. 2s. 4½d.

*Modern Health Products, Ltd.*, Vecon tonic drink, 58s. 6d. doz., 6s. 6d. (exempt from tax).

*Monsol, Ltd.*, Monsol liquid germicide (old formula), 6-oz., 24s. doz., tax 33½ per cent., i.r.p. 3s. 8d. Monsol ointment, 1-oz. tin, 13s. 3d. doz., tax 33½ per cent., i.r.p. 2s. Monsol throat pastilles, 2-oz. tin, 9s. 9d. doz., tax 33½ per cent., i.r.p. 1s. 6d. Additions:—Monsol pine fluid disinfectant, 8 oz., 16s. doz., 2s. (exempt from tax). Monsol gynaecological pessaries, 12's, 55s. doz., tax 33½ per cent., i.r.p. 8s. 4d.

*Numol, Ltd.*, Numol (additional sizes), 8 oz., 32s. doz., 3s. 6d.; 3-lb., 112s. 6d. doz., 12s. 6d.

*Organon Laboratories, Ltd.*, details of reduced prices may be obtained on application to the secretary, Proprietary Articles Trade Association, 43 Gordon Square, London, W.C.1.

*Parke, Davis & Co., Ltd.*, Aspirin, phenacetin and codeine tablets (CT 726), 25's, 20s. doz., tax 33½ per cent., i.r.p. 3s. 1d. Additions: Benadryl Emplets No. 55, 25-mgm., 50's, 36s. doz., 4s. 6d.; 500's, 25-mgm., 320s. doz., 40s. Benadryl ophthalmic, 10-c.c., 28s. doz., 3s. 6d. Benadryl parenteral, 10 mgm. per c.c., 10-c.c., 40s. doz., 5s. Chloromycetin capsules, 0.25 gm., 12's, 400s. doz., 50s. Carbital capsules, 25's, 52s. doz., 6s. 6d. Epanutin and phenobarbitone capsules, 100's, 64s. doz., 8s. (all exempt from tax).

*Reckitt & Colman, Ltd.*, Disprin tablets, new pack, 50's, 23s. doz., tax 33½ per cent., inclusive retail price 3s. 4d.

*Roche Products, Ltd.*, Addition: Redoxon vitamin-C tablets, 50 mgm., 20's, 54s. doz., 6s. 9d.; 100's, 216s. doz., 27s.; 500's, 960s. doz., 120s. (all exempt from tax).

*Therapeutic Products, Ltd.*, Addition: Formamint tablets (Wulfring brand); 20's, 9s. doz., tax 33½ per cent., i.r.p. 1s. 3d.; 50's, 18s. doz., tax 33½ per cent., i.r.p. 2s. 6d.

*St. Andrew Mills, Ltd.*, Camelia sanitary towels, standard size (loops or tabs 19s. 6d. doz., 2s. 1d.; size 1 (loops), 21s. 3d. doz., 2s. 3½d.; size 2 (loops), 24s. 1d. doz. 2s. 7d. Standard, new size, six in packet 9s. 9d. doz., 1s. 6½d. (all exempt from tax).

*Siltén, Ltd.*, Leucotropin veterinary injections, rubber-capped bottle of 30 c.c. 45s. doz., 5s. (exempt from tax). Additions: Papatropin tablets, tube of 20, 33s. 9d. doz., tax 33½ per cent., i.r.p. 4s. 8d. Papatropin suppositories, box of 3, 31s. 6d. doz., tax 33½ per cent., i.r.p. 4s. 5d.; box of 6, 47s. 3d. doz., tax 33½ per cent., i.r.p. 6s. 7d. Papatropin injections, box of three ampoules of 2 c.c., 40s. 6d. doz., 4s. 6d. box of 6 ampoules of 2 c.c., 56s. 3d. doz. i.r.p. 6s. 3d.; box of 50 ampoules of 2 c.c. 369s. doz., r.p. 41s. (all exempt from tax).

*Southon Laboratories, Ltd.*, Medicate cream of calamine with benzyl benzoate 25 per cent., 4-oz., 22s. doz., 2s. 9d. (exempt from tax). Esoban cream of calamin (new pack), 22s. 1d. doz., tax 33½ per cent., i.r.p. 3s. 6d.

*White Laboratories, Ltd.*, Addition: Aspergum chewing-gum aspirin, 11s. 3d. doz., tax 33½ per cent., i.r.p. 1s. 7d. 22s. 6d. doz., tax 33½ per cent., i.r.p. 3s. 2d. Feenamint chewing-gum laxative (additional size), 11s. 3d. doz., tax 33½ per cent., i.r.p. 1s. 7d.

*James Woolley, Sons & Co., Ltd.*, Glucosol, standard wholesale price (23s. doz. includes 3s. per doz. for bottles, returnable for credit. Carriage is now paid on Woolley's preparations on £5 orders and upwards.

*Wm. R. Warner & Co., Ltd.*, The additional 5 per cent. discount to retailers will in future apply to £5 orders.

*A. Wander, Ltd.*, Wander brand mal and oil, 4-lb. (additional size), 68s. doz. 7s. 3d.; 7-lb. (additional size), 112s. doz. 11s. 8d. (both exempt from tax).

*Wigglesworth, Ltd.*, Opas powder 11s. 6d. doz., 1 doz., 11s. doz., tax 33½ per cent., i.r.p. 1s. 9d.; 20s. 6d. doz., 19s. 9d. doz., tax 33½ per cent., i.r.p. 3s. Opas tablets: 8s. doz., 1 doz. 7s. 6d. doz., tax 33½ per cent., i.r.p. 1s. 1½d. 19s. 6d. doz., 1 doz. 18s. 6d. doz., tax 33½ per cent., i.r.p. 3s.

*E. Griffiths Hughes, Ltd.*, Karsodrine in haler, 18s. doz., 2s. (exempt from tax).

### Additions to Protected List (Part 1)

*Ceegi Rubber Co.*, Ceegi contraceptive set, 14s. doz., 3s. 6d. (exempt tax).

## TRADE NOTES

**Sole Distribution.**—From April 1, Staford Miller, Ltd., Mill Green, Hatfield, Herts, are taking over the sole distribution of Amm-I-Dent, Anti-kamnia, Corega, Dr. Vernet's denture powder, Orlex, Polident.

**Unavoidable Delays.**—Mr. G. Roland Harvey, 29 Hampstead Hill Gardens, London, N.W.3, regrets that, owing to illness, delays have occurred in the dispatch of goods to customers. He hopes to be able to resume full working shortly.

**Sprinkler-bottled Lemon Juice.**—Edward Hack, Ltd., Red Lion Street, London, W.C.1, are marketing 2-oz. sprinkler-topped bottles of Sicilian lemon juice under the label "Hax juice of real lemons." The juice is unsweetened but contains sulphur dioxide as preservative. The pack ensures equal convenience in the kitchen and in the bathroom.

**D.D.A. Products.**—British Chemicals and Biologicals, Ltd., Loughborough, point out that, though the company is responsible for the distribution of Genatosan products, preparations containing Dangerous Drugs remain the responsibility of Genatosan, Ltd., 43 Regent Street, Loughborough, to whom orders for any such items should be addressed.

**New Anti-convulsant.**—British Schering, Ltd., 229 Kensington High Street, London, W.8, are marketing under the name Malazol an oxazolidine-2:4-dione derivative:—3-allyl-5-methyloxazolidine 2:4-dione. Malazol is claimed to be twice as effective as trimethadione in metrazol-induced convulsions, while its effect appears to be of longer duration. The average adult dose is of the order of 0.3 gm. two or three times daily. Malazol is issued in containers of 100 0.3-gm. capsules.

**Easter Holiday Closings.**—The following have announced their intention of closing from Thursday evening, March 22 until Tuesday morning, March 27:—BAYER PRODUCTS, Ltd., Africa House, Kingsway, London, W.C.2 (urgent requirements from John Bell & Croyden, 50 Wigmore Street, London, W.1); FERRIS & CO., Ltd., Bristol, 2 (from March 27 all pharmaceuticals which have been stocked at Redcross Street will be available at the company's premises in Portland Square); GLAXO LABORATORIES, Ltd., Greenford, Middlesex (skeleton staff from 8.30 a.m. to 12 noon, March 24); H. R. NAPP, Ltd., 8 Clements Inn, London, W.C.2 (urgent requirements from John Bell & Croyden

or R. Woolby Brooke, 38 Gloucester Road, London, S.W.7); ROUSSEL LABORATORIES, Ltd., 847 Harrow Road, London, N.W.10 (urgent requirements from John Bell & Croyden); BURROUGHS WELLCOME & Co., 183 Euston Road, London, N.W.1 (emergency staff from 9 a.m. until 12.30 p.m. on March 24).

**Price Lists.**—CAVALCADE BEAUTY PREPARATIONS, Ltd., 417 Battersea Park Road, London, S.W.11, invite chemists to write for a copy of the March 1951 trade price list of Cavalcade beauty preparations by Hanri.—MAY & BAKER, Ltd., Dagenham, Essex, have issued a second amendment to the 1951 price list of M. & B. medical products.—PARKE, DAVIS & Co., Hounslow, Middlesex, announce in "Price List Information, No. 100" the addition to their price list of Bena-Fedrin (Benadryl 0.1 per cent., ephedrine hydrochloride 1 per cent., chloretone 0.5 per cent., menthol in isotonic dextrose solution 0.05 per cent.) in bottles of 1 and 16 fl. oz.; details are also given of revised prices effective from March 12 for the company's analgesic balm, Capsolin, and Dermaseptic shaving stick.—An adhesive-backed sheet of price alterations and additions operative from April 2 has been issued by GEDEON RICHTER (GREAT BRITAIN), Ltd., Wedington Road, London, N.W.5, for insertion in the company's price list.

## PRICE CHANGES

R. DEMUTH, Ltd., Farnham, Surrey, are increasing from March 19 the prices of Frozocline and Frozolavender; the new prices are less than 30 per cent. above the 1950 prices; simultaneously the percentage discount allowed to retailers is being increased from 33½ per cent. to approximately 36 per cent.—GILLETTE INDUSTRIES, Ltd., Isleworth, Middlesex, announce new prices for 7 o'clock razor blades as from March 5; the prices to wholesalers and retailers will undergo a slight change to conform with the new retail price.—KEEN, ROBINSON & Co., Ltd., Carrow Works, Norwich, increased the consumer prices of Robinson's "patent" barley on March 12.—MAY & BAKER, Ltd., Dagenham, Essex, gave effect on March 12 to new prices for ephedrine hydrochloride tablets, gr. ¼, gr. ½, and gr. 1, in all packings.—NEW ERA LABORATORIES, Ltd., Cecil House, Holborn Viaduct, London, E.C.1, announce increases in the retail prices of Elasto and Nervone tablets.

## PHOTOGRAPHIC TRADE NOTES

**Camera Repairs.**—A speedy service of repairs to box and folding cameras is offered to photographic dealers by Bowen's Camera Repair Service, Ltd., 37 Spital Square, London, E.1.

**Films for Home Movies.**—Home ciné owners buy and keep Movie-Paks (16-mm. sound and silent and 8-mm.); a list of new titles is given on another page. The makers are G.B. Equipments, Ltd., Perivale.

**Light-sensitive Materials.**—Butterworths Scientific Publications, Ltd., Bell Yard, London, W.C.2, give details on another page of an advanced textbook on the fundamentals of photography for those who work with light-sensitive materials.

**Where to Buy.**—Current photographic trade manufacturers, supply houses and services are listed in the Photographic Trade Index issued by Photographic Trade Bulletin, 4A Bloomsbury Square, London, W.C.1. Details are given on another page.

**Apparatus and Supplies.**—The Firm-grip filter-holder illustrated is manufactured by ACTINA, Ltd., 10 Dane Street, London, W.C.1; it allows for pre-setting to the required diameter while still centring the filter in front of the lens.—AGFA, Ltd., Wimbledon Factory Estate, London, S.W.19, give details on another

page of the supply position of Agfa enlarging and contact papers, cameras and projectors; Agfa special paper is now controlled by a Board of Trade Order restricting supplies.—The Alpha de Luxe enlarger shown is one of a series manufactured by GNOME PHOTOGRAPHIC PRODUCTS, LTD., Cardiff, and described in a fully illustrated broadsheet obtainable from the company.—The Pelmet extinction-type exposure meter, available in pocket and wrist models from R. F. HUNTER, LTD., 51 Gray's Inn Road, London, W.C.1, is most accurate, even in poor lighting conditions, and a ready seller.—LEKTROMEK SUPPLIES, 4 High Pavement, Nottingham, have put on the market a cold cathode unit for enlarger illumination, and a thermostatically controlled dish and tank heater, accurate to half a degree. The cold cathode unit can be adapted to fit practically any enlarger and an improvement on the method of diffusion renders a greater contrast than is usual with units of this type.

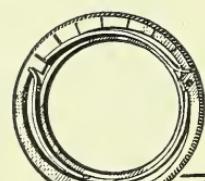
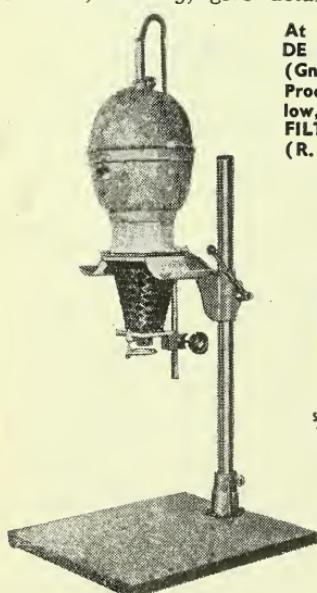
**Roll Films.**—The sole importers of the Italian Ferrania film are NEVILLE BROWN & CO., LTD., 77 Newman Street, London W.1.—On another page the terms and prices of Penguin films are tabulated by PENGUIN PHOTO PRODUCTS, LTD., Laing Corner, Mitcham.

**Albums and Fixers.**—GARDEN PRESS LTD., 92 Victoria Street, London, S.W.1, offer a range of photographic albums.—CUMBERLAND PAPER CO., LTD., Derbyshire House, Belgrave Street, London, W.C.1 invite chemists to write for sample boxes and trade terms of Seagull transparent photo-fixers.

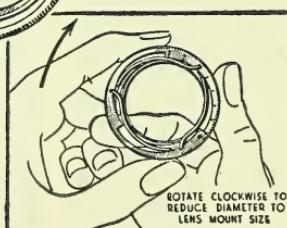
**Developing and Printing.**—D. and P. services are offered in this issue by the following:—The Owl Photo Service, Louth, General Photographic Developments, London, S.W.5, Photo Services (Manufacturing Chemists)

Ltd., Salford, 5, and Stockwell Photo-service, London S.W.9, who offer local collection or postal service. Any chemist who decides upon setting up his own department should see what Heatrae, Ltd., Nor-

At left: ALPHA DE LUXE ENLARGER (Gnome Photographic Products, Ltd.). Below, right: FIRMGRIP FILTER HOLDER (R. F. Hunter, Ltd.).



SPRINGS FULLY OPEN  
GIVING MAXIMUM  
DIAMETER



ROTATE CLOCKWISE TO  
REDUCE DIAMETER TO  
LENS MOUNT SIZE

wich, can provide in temperature maintenance. When the films have come out of the wash water a Marrutt dryer by General Photographic Developments Co., London, S.W.5, is valuable equipment.

**Developers and Fixers.**—Promicrol, an ultra-fine-grain developer introduced just

over a year ago by May & Baker, Ltd., Dagenham, represented a considerable advance on the then accepted ultra-fine grain standards of development, particularly for the miniature camera user. Exceptionally

fine grain is achieved with no loss of emulsion speed, and good shadow detail can be obtained with exposures made at half the normal rating. Amfix ultra-rapid fixer is a concentrated liquid preparation requiring only dilution with water to make it ready for immediate use. Films are in the fixing bath for less than two minutes and prints for less than twenty seconds before the process is complete. Cobrol—a new bromide-paper developer—is in a highly concentrated liquid form, and gives clear bright prints over a wide range of developing times.

**Electronic Flash Outfit.**—A new Safety speedflash portable electronic flash outfit is now available for operation from batteries or a.c. mains. It is designed and manufactured by Ernest Turner Electrical Instruments, Ltd., High Wycombe, and can be obtained from Speed Lamps, Ltd., 21 Denman Street, London, W.1, the sole distributors to the photographic trade.

**Own-name Photographic Booklets.**—Fountain Press, 46 Chancery Lane, London, W.C.2, are the publishers of two 32-page booklets: "Your Guide to Better Box-Camera Photography" and "How to Develop, Print and Enlarge Your Own Photographs," on which they are prepared to print at moderate cost the chemist's own name and address.

**Amateur Photographic Contest.**—Dufay-Chromex, Ltd., 14 Cockspur Street, London, S.W.1, are making awards to amateur photographers in each month from April to August in a three-class competition "Pets, People and Places." The first prize



in each class is £50, the second prize £25, and the third prize £15, with fifty cameras to runners-up in each class. A final prize of £50 in each class for the best photograph submitted during the entire contest and a grand final prize of £250 for the photograph judged best throughout the contest are also being awarded, and a special bonus of £25 is being paid to any cash prize-winner if his successful entry was taken with a Coronet camera. Contest rules are given on an entry blank of which supplies may be obtained from the company.

**Resilvering of Mirrors.**—Gowlands, Ltd., Morland Road, Croydon, have for over fifty years specialised in surface-silvered mirrors for reflex cameras. Mirrors from range-finders, epidiascopes, etc., if sent unmounted and packed in a rigid box can be re-surface-silvered and sent back by return of post (and if necessary specially protected to stand up to the heat of projectors) in three to four days. Messrs. Gowlands also make ground-glass camera focusing screens optically worked to a true plane.

## FIFTY YEARS AGO

### Foundation of the P.D.A.

(From the *C. & D.*, March 16, 1901)

I WAS at the meeting of dealers in Ander-ton's Hotel on Monday evening, which was understood to be called for the purpose of considering the new Kodak agreement, but we elected Mr. George Houghton Chairman of the Association (it is to be called the Photographic Dealers' Association) and a committee to work with him, and discussed various subjects before we got to the real thing. Even then there was little guidance, only smothered grumbling. Whether the new condition will have the effect intended the meeting did not indicate. Perhaps it may be useful to state that so far the only roll-holder cameras in this country other than Kodaks are "Cycam," the "Pocket" camera (the Busch Camera Company), and the "Challenge" film camera (Lizars, Glasgow). There are several makes of roll-films, such as the Thornton films (Thornton Film Company, Altrincham), noticed in the *C. & D.*, September 8, 1900, page 445, and February 2, 1901, page 224; the Wellington films (Wellington & Ward, Elstree); and the Cristoid films, the latest introduction by Sandell Films and Plates (Limited), Norwood Junction, S.E.

# PHARMACEUTICAL SOCIETY OF GREAT BRITAIN

A MEETING of the Council of the Pharmaceutical Society of Great Britain was held in London on March 6 and 7, the president (Mr. A. A. Meldrum) in the chair.

## Class Z Reservists

The Council reviewed the position of Class Z reservists in relation to its effect on the maintenance of the pharmaceutical services. Representations had been made to the Ministry of Health and its view was that the number of pharmacists recalled would not be large, and as the training period should be spread over five months, no serious difficulty should arise. The number of pharmacists who had informed the Society that they had received warning notices was fourteen. In the light of this information the Council decided not to press further for special arrangements for pharmacists in regard to the fifteen days' training but to ask all pharmacists who had received or would receive calling up notices to communicate with the Society.

THE SECRETARY AND REGISTRAR (Mr. F. W. Adams) reported that since the previous meeting seventy-four persons had been registered as apprentices or students, making a total of one hundred and twenty-four for the year. Applications for restoration to the register had been received from nine former members and eight applications for registration under reciprocity agreements had been granted.

## Roof Greenhouse

Dealing with a recommendation in the Establishment Committee's report "That the secretary be authorised to arrange for the erection of a greenhouse on the roof of 16 Bloomsbury Square, at an estimated cost of £130," MR. H. M. HIRST said it was the first he had heard of the project. He recalled that fifteen years ago, when plans for what were to be the new headquarters were before the Council, it was suggested that a greenhouse should be put on top of the new building. The suggestion was turned down, as it was claimed that the atmosphere in central London was not suitable for a greenhouse. "I cannot see what sort of a greenhouse you will get for £130—whether it will be fuel-heated, or something which will last a dozen years." THE PRESIDENT asked whether the Committee's recommendation was not sufficient. MR. HIRST, in reply, said he thought it would have been a matter of courtesy, as the only practical gardener

on the Council, to have consulted him. MR. GRANVILLE SHAW explained that the curator found it necessary to visit Chelsea Gardens to take readings and to water plants at frequent intervals, which involved an enormous amount of time. He had given a full explanation which the committee had accepted. Before the recommendation was accepted by the Council, MR. HIRST asked it to be placed on record that he disapproved the recommendation and objected to his not having been consulted.

The Organisation Committee recommended that branches of the Society should be formed in Guernsey and in the Dudley area, subject to checks on the number of pharmacists in the area and the views of the branches affected being obtained.

## Education Committee

The Education Committee noted, with appreciation, the terms of a bequest by the late Mr. R. H. Williams, Holyhead. The will provided for a trust fund, to be known as the Galen Trust, the income from which was to be used, at the Society's discretion, for the award of an annual prize of £100 to an apprentice or student in Anglesey, Carnarvon, Denbigh or Flint, and for other purposes.

The Privy Council Visitor's report on the Society's examinations held in Scotland during 1950 which was received. It showed that in the Intermediate examination, out of 515 candidates examined, 243 passed and ninety were referred. The subject which caused the highest percentage of failures was physics (44), with chemistry a close second (43.7). In the Pharmaceutical Chemist Qualifying examination ninety-five candidates were examined, fifty-two passed and twenty were referred. In the Chemist and Druggist Qualifying examination, 456 candidates were examined, of whom 231 passed and eighty-eight were referred.

## Inspections of Schools

MR. T. HESELTINE said that schools of pharmacy should be inspected more often than every five years. A school that was suitable for, say, forty students, might increase its numbers to as many as seventy, and if its equipment were not correspondingly increased it might prove inadequate for the larger class. THE PRESIDENT remarked that, if necessary, inspection was more frequent. MR. HESELTINE asked

whether the students were seen under working conditions. MRS. J. K. IRVINE (chairman of the Education Committee) said that inspection was thorough. She called attention to a detailed report on the subject circulated two or three years ago.

THE SECRETARY reported that Mr. Eric Scott (federal president, Federated Pharmaceutical Service Guild of Australia) would attend the British Pharmaceutical Conference at Harrogate on behalf of the Australian Society.

The Ethical Committee reported that it had been consulted with regard to the proposal of a pharmacist to use the description Pharmaceutical Specialist in connection with his business. The view was expressed that this proposal could not be supported, and that statutory titles should be adhered to. The Council concurred.

It was decided to accept an invitation from the Pharmaceutical Society of Belgium to suggest the names of persons who might contribute to an international symposium to be held in June on the inspection and registration of proprietaries.

### Registrar's Report

The following are among details recorded in the report by the registrar of the Society on the year 1950:—

In the enforcement of the Pharmacy Acts it was necessary to institute proceedings in forty-seven cases, of which the illegal sale of Part 1 poisons accounted for more than half this number. In an additional 148 instances a warning letter was issued. The increase in the number of premises of authorised sellers registered was less than 100 (the smallest increase recorded since 1945). Compared with 1949 there was an increase in the number of superintendents to bodies corporate though the number in 1949 was unusually low. The report adds that the method of recording superintendents is administratively unsatisfactory since while the Act (Section 9, 1933 Act) requires notification of an appointment no provision is made for notification of resignation.

The aggregate increase in the number of names on the register was 230, the highest figure in any one year since 1939. The number of persons on the register on December 31, 1950, were: Pharmaceutical Chemists, 2,099; Chemists and Druggists, 23,735. In enforcing the Penicillin Act, 1947, complaints were investigated and dealt with by warning letter in three cases, and the institution of proceedings.

### NEW BRITISH STANDARDS

A BRITISH Standard (1704) has been prepared to meet the demand for a series of good quality thermometers, covering temperature ranges between  $-120^{\circ}\text{C}$  and  $510^{\circ}\text{C}$  and between  $-180^{\circ}\text{F}$  and  $950^{\circ}\text{F}$ , which can be manufactured in large quantities. Toluene or pentane is specified for use in the lowest ranges of temperature (total immersion only), and mercury for the remainder (parallel series for total and 100 mm. immersion). Pending the complete revision of B.S. 593, Amendment 1 has been issued to add a further F series of ten partial immersion thermometers within the range  $-20^{\circ}\text{C}$  to  $400^{\circ}\text{C}$  intended for use with solvents. It is based largely on the corresponding specifications of the American Society for Testing Materials.

A Standard for short-range short-stem thermometers (B.S. 1365:1951) covers thermometers of the Anschütz and similar types, with a scale length not greater than 12 cm. Series A covers the range  $-10^{\circ}\text{C}$  to  $360^{\circ}\text{C}$ , each thermometer having a scale span of approximately  $60^{\circ}\text{C}$ . Series B covers the range  $-10^{\circ}\text{C}$  to  $220^{\circ}\text{C}$  (with a scale span of approximately  $10^{\circ}\text{C}$ ) and is recommended for use in determining melting points and setting points. Each series is duplicated for total and partial immersion. Essential details are specified, and a list of thermometric glasses approved by the National Physical Laboratory is included as an appendix of the Standard.

### Catheter Standard

A Standard for flexible urinary catheters (B.S. 1695:1950) has been prepared at the request of the Royal College of Surgeons and the British Association of Urological Surgeons. The Beniqué scale has been chosen to cater for the small increments in size ( $\frac{1}{6}\text{mm.}$ ) frequently required for ureteric catheters, but the range of sizes specified for the larger catheters often shows even sizes only. The Standard specifies the quality, design and identification marking of the commonly-used types of urinary catheter. Working drawings are given. An appendix has been included to facilitate correlation between the standard Beniqué sizes with those on the Charrière and English scales.

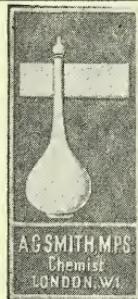
Copies of the standards may be obtained from the Institution, Sales Department, 24 Victoria Street, London, S.W.1, at the following prices:—B.S. 1695, 5s.; B.S. 1704 and B.S. 1365, 2s. each.

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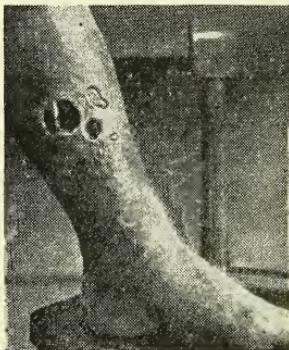
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permits mention of one clinical experience only, as illustrated. The patient, Mr. E. F., suffered from a deep leg ulcer for 12 years. After 11 weeks treatment with F "99" a complete healing was obtained,

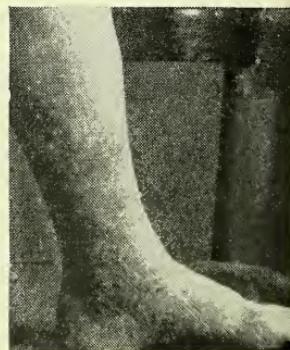


## ABOVE

Photograph of the left leg of Mr. E. F. taken on July 14th, 1949, before commencing treatment.

## ALONGSIDE

Photograph of the same leg, taken on September 27th, 1949, at conclusion of treatment.



and in over 18 months no recurrence has been reported. No secondary or undesirable effects were noticed during treatment, which comprised one F "99" capsule and one application of ointment, daily.

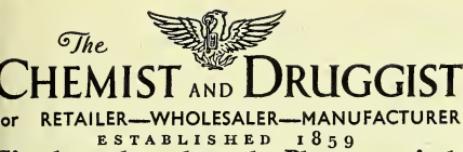
## Professional Literature

Professional literature, with numerous photographs, is freely available to doctors and pharmacists from the Sole Distributors : International Laboratories, Ltd., Dept. PA5, 18 Old Town, London, S.W.4. Advt.

## TRAGACANTH

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VOL. CLV MARCH 17, 1951 No. 3708

## The Sulphur Shortage

THE outcome of a series of meetings in Washington last week of the Sulphur Committee of the International Materials Conference is not yet known, but statements made on this side of the Atlantic and in the United States during the past few days suggest that prospects of greatly increased allocations of sulphur are not good. In the House of Commons, on March 2, Mr. Harold Wilson (President of the Board of Trade) said that, unless greater supplies of sulphur could be obtained from the United States, cuts would have to be made in industrial production. Plans had been made for the allocation of sulphur and sulphuric acid if supplies did not improve.

U.S. official estimates show that demand for American sulphur in 1951, including exports, will exceed supply by more than 500,000 tons. It is believed that total exports of American sulphur during the second quarter of 1951 will be about equal to the amount shipped in January-March, i.e., 200,000 tons. Of that, the United Kingdom's allocation was approximately 80,000 tons. The European Co-operation Administration and the U.S. Commerce Department's Office of International Trade are thought, however, to be proposing a supplementary allocation of 30,000 tons for the first quarter, of which the United Kingdom might receive about 19,000 tons, making a total of about 100,000 tons of sulphur for the United Kingdom in the second quarter. The E.C.A., though keenly aware of Britain's difficulties as a result of the shortage, feels that the stated British requirement of 500,000 tons per

annum (or 125,000 tons quarterly) would be justifiable only if there were an abundance of sulphur available. Recently, when commenting on the sulphur scarcity (see *C. & D.*, 1950.II.619) we pointed out that the only other important sulphur producer, Italy, charged considerably higher prices than the United States owing to higher costs of production. The Italian product is deep-mined, whereas in the United States extraction is largely by steam solution. In Britain, the long-term policy of producing sulphuric acid from materials other than sulphur is being adopted, and plans for a new plant for the manufacture of acid from anhydrite (a mineral that exists in several parts of Britain) are to be announced shortly. At present, anhydrite accounts for about 6 per cent. of acid production. Before the war, pyrites was the most important source of sulphuric acid. Today there are difficulties in the way of obtaining large quantities from Spain and North Africa, owing to shortages of mining equipment, and—in Spain—of man-power. Other methods of obtaining acid include production from spent oxide (a by-product of the purification of coal gas).

Of the 1,816,134 tons of sulphuric acid consumed in the United Kingdom during 1950, only 12,434 tons were utilised for "drugs and fine chemicals," but large quantities were used in the production of intermediates for the former products.

## 1951 Photographic Season

THE gradual recovery of amateur photography after the 1939-45 war has accelerated conspicuously in recent months and there was every likelihood of a bumper season during the Festival of Britain year, with its many overseas visitors to add to the demands upon photographic dealers. Unfortunately, that bright prospect has been somewhat dimmed by transference of raw materials, labour and industrial potential to other and more urgent national requirements, but there still remains a sufficiency of apparatus and supplies for a summer of constant activity at the counter, whatever subsequent interruption of the flow of supplies there may be. In this issue an endeavour is made to give a helping hand to the chemist who wants to

select wisely among a profusion of merchandise offered him by many newcomers to the field of photographic manufacture as well as by the firms whose activities since the pioneering days have made their names household words wherever a shutter is released or an exposure calculated. The "strictly trade" information is supplemented by authoritative articles on technical and historical aspects of the subject, since if there is one thing certain in building up a successful photographic department it is that progress is not made unless the salesman is as expert and informed in his subject as he knows how to become. We believe our special photographic issue comes opportunity at a time when many may have "taken the measure" of the National Health Service, have the desire to avoid being largely dependent on a single large customer, and can again give some of their best attention to a department which, since the earliest days of photography, has come naturally and easily to their scientific background and facilities for customer service. It is always necessary to guard against any half-hearted adoption of the complex responsibilities of a modern photographic business, but provided he can devote to it the necessary concentration and enthusiasm there is no one better fitted than the chemist to handle the instruments, apparatus and services of photography for the customer whose hobby it is.

### Self-service and Cosmetics

SELF-SERVICE has so far made comparatively little headway in this country. In a sense bookshops have always been self-service stores. A growing number of grocery stores have switched to the different layout, fixtures and staffing imposed by the new technique—assisted for a time (now ended) by Government help in obtaining building licences, etc. For the rest, the number of businesses conducted on self-service lines in any trade probably does not run into more than double figures. We know of no self-service pharmacy in Britain, and most British pharmacists would, we think, agree that the supply of medicinal products is not a suitable trade for the employment of such methods.

Nevertheless it is as well to take note

of one development on the opposite side of the Atlantic that is having an important effect on the character of the druggist's business in the United States, since it is a change that may easily come to take place in this country. In America the distribution of popular-priced branded perfumes and cosmetics has been taken over by what the American monthly "Beauty" calls "super-markets" (the term appears to refer principally to self-service shops but to include the so-called 5- and 10-cent stores) to such an extent that retail outlets total 150,000, supplemented by "over 170,000 house-to-house agents." The total of drug-stores (pharmacies) is 54,000, so the extent of the encroachment in "a specialised department pre-eminently belonging in a drug-store" is fairly obvious, especially as "because of their basic position in foodstuffs, super-markets deal with five to six women customers for every one that enters a pharmacy."

Against such competition, is there any future for the pharmacist's cosmetic department? The question is one that must interest British pharmacists even if self-service is at present a cloud no bigger than man's hand. The implied answer of an American writer on "A Dilemma for Druggists" is that for certain classes of cosmetic (the "self-service staples") the trade is gone never to return. "We may even have to admit later that personal selling impedes the sale" of that class of goods, since "no salesman can peer into the mind of a customer and sort out all kinds of delayed or subconscious wants, whereas open display and self-service automatically brings many of those wants to conscious action."

Against that loss, 4,000 of the independent druggists have successfully developed a policy that continues to give them a profitable turnover in cosmetics and perfumery. They do it not by entering into competition in standard popular branded goods but in concentrating on higher priced specialities—especially of manufacturers who use "selected distribution"—requiring greater knowledge, taste and training in effecting sales. With or without a spread of self-service in Britain, that is a policy to be commended here.

# CHEMISTS AND REARMAMENT

By Committeeman

**T**HE decision of the Government to spend about £4,000 millions on rearmament and defence measures, no less than the causes that have given rise to that decision, will have profound effects on every inhabitant of this island. How it will affect especially the retail pharmacist may be worth a closer look.

### Trend of Events

It is not a very heartening picture. Even if there is no need to harbour undue pessimism, nevertheless pharmacists established in business, and particularly those contemplating changes, will be wise to look facts in the face, and to observe in what direction events are moving. Present appearances suggest that the picture will change considerably during the next twelve months, even if no major international eruption occurs to quicken the process.

The shortages which were so sharp a feature of the 1939-45 period are bound to recur. The projected call-up of fairly large numbers of young men may divert many young assistants from business and lead to a shortage of staff. The restrictions imposed on materials will cause a shortage of goods and the restrictions on metals a shortage of containers and fittings. The huge sums spent on defence preparations will lead to increased taxation, producing amongst pharmacists, as amongst other citizens, a shortage of cash. The withdrawal of assistants into National Service, with more work thrown on fewer men, will result in a shortage of leisure. It seems inevitable that the Government, however loath to interfere with the National Health Service, will have to effect economies in costs of administration, and undoubtedly some of those cuts will be imposed on the allowances and remuneration of professional contractors. Fewer qualified men available must lead to higher wages paid to those who can accept engagements, though Civil Defence needs may restrict the movements of the younger men remaining in daily business.

All these effects must continue for some years to come even if more explosive events do not speed up the tempo of rearmament and disrupt present business methods altogether. Controls, restrictive orders and increased costs are going to affect considerably the ordinary routine of the pharmacist. N.H.S. matters will be accorded priority, and the dispensing pharmacist—

short-staffed as he is bound to be—may have little time to spare for the distribution of the reduced quantities of cosmetics and toilet sundries released for sale in something like a return to war-time packings.

Two sources of help for the proprietor may remain to be tapped to relieve staff difficulties—women pharmacists, of whom there are now many more than formerly, and who will be available for hospital and retail dispensing work, unless they are directed into one of the many forms of defence work; and retired pharmacists of both sexes, who will no doubt be invited to return to active service and give assistance with the dispensing of N.H.S. prescriptions.

Demands for salary increases by available qualified assistants, added to the call-up of younger men and the effects of other restrictions, may compel some one-man shops to close. It has already been reported that some of the co-operative societies have found it impossible to keep all their branch pharmacies open because of the difficulty of securing qualified managers at economically practicable salaries. If some pharmacies close, N.H.S. dispensing will have to be done by fewer contractors, leading to longer hours (at the reduced remuneration resulting from the cuts already suggested as probable). A minor consideration, but one that may be mentioned, is that, owing to increased costs of materials and labour, extensions to or adaptations of premises may have to be postponed—if, indeed they escape being prohibited altogether.

### Effect on Proprietaries.

Another, and more fundamental, change may be brought about if the Government extends the restrictions it has already imposed on the prescribing of certain proprietaries, and if the supply of non-essential commodities continues limited. It is possible to visualise the retail pharmacy during the next few years of extreme stringency as a public dispensary where the professional dispensing work required by the National Health Service is the main preoccupation of the establishment, and all other, less important, activities may gradually diminish in volume and even cease altogether. So that, even if actual warfare is avoided, conditions consequent upon rearmament and the restrictions that

may limit extra trading activities may force into new moulds the character of the work carried on in the shop pharmacy and lead to the privately-owned business emerging as a purely professional establishment existing for the dispensing of prescriptions and depending for the proprietor's livelihood on the remuneration paid to him at contract rates for the N.H.S. work he undertakes on behalf of the community. It is not impossible, therefore, that out

of the present emergency the ideals of Bloomsbury Square may be realised ultimately, and the standard of general pharmacy in this country be raised to the wholly professional plane. In that event it might be fitting to change the caption on the Society's coat of arms to "Poorer, but more Professional," and on that note, perhaps, it were best to close this glance into the austere years that, at the moment, appear to lie ahead of British pharmacy.

## CORRESPONDENCE

**Letters may be sent for publication under an assumed name, but the correspondents must furnish their real name and address to the Editor**

### N.H.S. Containers

SIR,—When the container question next comes up for review I suggest that the following points should be considered:—

1. Should used containers, particularly after contact with an infectious disease, be allowed access to a dispensary prior to cleansing and sterilising?

2. Does the average pharmacy possess the necessary space, equipment and staff adequately to cleanse and sterilise used containers?

3. Apart from cleansing, should used containers be reused without prior sterilisation?

4. From the health viewpoint, apart from economic considerations, could not the used containers be better dealt with outside the pharmaceutical branch of the National Health Service?

Bradford.

J. DEWHIRST.

### Progress in Education

SIR,—Xrayser's remarks on pharmaceutical education (*C. & D.*, February 24, p. 229) state the now stereotyped idea of our training. The point is not the need of improvement in the training, but whether the present time is suitable for carrying through changes that play havoc with established businesses and make the present dispensing duties difficult to carry out. Our Council did not follow the wise old caution against swapping horses when crossing a stream. The immediate needs of the present vastly increased work do not at all require a different qualification from that of the old Chemist and Druggist examination, but that need not have prevented them from taking a long view of our requirements and encouraging a more academic training. Xrayser's argument to make our standard of education comparable with that elsewhere, especially abroad

does not take into consideration our different traditions. In foreign countries pharmacists did all the dispensing and did not sell toilet goods, vacuum flasks and brushware. The higher training there was due to the higher standard of education all round not only in pharmacy, but also in medicine and even science. They did not there experience sixpenny and one shilling surgeries and doctors selling their patients medical sundries and drugs. The Continental training was different; it did not aim to make a doctor a know-all. Students were encouraged to specialise. In this country the aim was more commercial, and as a result doctors became a prey to propaganda by the manufacturers. Prescribing has reached a low level. The main trouble is that our professions are closed corporations, often furthering their narrow material interests to the detriment of national needs. The Universities have preferred constructing magnificent buildings to increasing facilities for education and increasing staffs and pay. It is common experience now that numbers of young people cannot proceed with their education; for such persons pharmacy is a makeshift, but our hard life does not make it attractive. It would not be surprising, if, before long, the Ministry of Education were to take over the training in professions and to adjust man-power to national needs.

Ph.C.

**Overseas Students Welcomed.**—The East and West Friendship Council, now at Student Movement House, 101 Gower Street, London, W.C.1, sends a welcoming letter to every overseas student arriving in Britain for a course of studies. The Council serves as a clearing-house, securing information from Government students' agencies, the Colonial Office, etc., and introducing students to friends or groups.

## NEW BOOKS

**International Mercantile Diary and Year-book, 1951.** — 9 $\frac{3}{4}$  x 7 $\frac{1}{4}$  in. Pp. 318, plus diary and fourteen appendices. 30s. (including subscription to the "Merchant Shipper" monthly). Syren and Shipping, Ltd., 26 Billiter Street, London, E.C.3, continues to provide exporters with information on documents required in international trade. A useful feature is a summary of the requirements of principal countries for goods sent by bill of lading.

**A Guide to Medicine.** — Ivo Geikie-Cobb, M.D. 9 x 6 in. Pp. 416. 15s. George G. Harrap & Co., Ltd., 182 High Holborn, London, W.C.1. A reference book of medical terms, arranged alphabetically. Pharmacists should find it useful when something more than a medical dictionary is required. Twenty-one specialists have contributed articles on the more important sections of medicine. Amongst them are Sir Alexander Fleming (on antibiotics) and Sir Archibald McIndoe (on plastic surgery).

**The Law of Advertising.** — W. J. Leaper. 8 $\frac{3}{4}$  x 5 $\frac{3}{4}$  in. Pp. 334+37. 21s. (22s. 1d. post free). Butterworth & Co. (Publishers), Ltd., London. In eleven chapters the author, a barrister and the assistant general secretary of the Advertising Association, deals with the law of contract, agency, copyright, patents and designs, trademarks, sale of goods, etc. In two appendices he gives the text of relevant statutes and instruments, and ten codes of ethics, including those of the proprietary Association and Pharmaceutical Society and the British Code of Standards in Relation to the Advertising of Medicines and Treatments. The value of having all this material brought together in one volume scarcely needs stressing.

**Trace Elements in Food.** — G. W. Monier-Williams, O.B.E., M.C., M.A., Ph.D., F.R.I.C. (chemist in charge of food research laboratory, Ministry of Health). 9 x 5 $\frac{1}{2}$  in. Pp. 511. 30s. Chapman & Hall, London, W.C. As the author points out in the preface, the food chemist must have as wide a knowledge as possible of all the questions involved in the subject: biochemistry, nutritional significance and toxicology. As a demonstration of the adequacy of his endeavour to meet that need, a few of the subtitles in the first chapter (on copper) may be given: Copper as an essential element in plant and animal life; in organs of the body; biological

availability; absorption, excretion and retention; minimum requirements; deficiency effects in cattle and sheep; pigmentation; copper in soils and plants; in dairy products; copper fungicides; corrosion of copper by foods; copper and fermentation; and vitamin C; determination of copper in food; and eight pages of references. Twenty-eight elements (not all, of course, so important as copper) are dealt with in the same meticulous way.

## COMING EVENTS

### Monday, March 19

MERSEYSIDE BRANCH, NATIONAL ASSOCIATION OF WOMEN PHARMACISTS, Red Cross Room, Common Hall, Hackins Hey, Liverpool, at 7.15 for 7.45 p.m. Mrs. I. Stewart on "A Journey from East to West."

WEST MIDDLESEX CHEMISTS' ASSOCIATION and BRANCH, Y.M.C.A., Bond Street, Ealing, London, W.13, at 8 p.m. Miss J. Harley (nursing consultant to the Milton-Dersan Research Laboratories) on "The Use of Hydrochlorites in the Combat of Cross-infection" (illustrated).

### Tuesday, March 20

EASTBOURNE BRANCH, PHARMACEUTICAL SOCIETY, 2A Terminus Buildings, Eastbourne, at 8 p.m. Discussion on resolutions for the Branch Representatives' meeting and proposed revision of the Constitution.

EAST METROPOLITAN BRANCH, PHARMACEUTICAL SOCIETY and WALTHAMSTOW ASSOCIATION OF PHARMACISTS, Conway Hall, High Street, Walthamstow, London, E.17, at 8 p.m. Film: "Chloramycetin" and address by Mr. C. Beaven (Parke, Davis & Co.).

NOTTINGHAM BRANCH, PHARMACEUTICAL SOCIETY, lecture theatre of the Medico-Chirurgical Society, 64 St. James' Street, Nottingham, at 7.30 p.m. Mr. B. A. Bull (a past chairman of the British Pharmaceutical Conference), on "The British Pharmaceutical Conference."

ROYAL INSTITUTE OF CHEMISTRY, The Cherry Tree, Welwyn Garden City, at 8 p.m. Mr. D. E. Seymour on "Recent Advances in the Chemotherapy of Tuberculosis."

SLough BRANCH, PHARMACEUTICAL SOCIETY, King Edward VII Hospital, Windsor, at 8 p.m. Mr. K. H. Edwards (Organon Laboratories, Ltd.) on "Hormones: Practical Applications and Dangers."

WOLVERHAMPTON CHEMISTS' ASSOCIATION and BRANCH OF THE NATIONAL PHARMACEUTICAL UNION, Victoria Hotel, Wolverhampton, at 7.30 p.m. Address by Mr. P. Varley (member of the N.P.U. Executive Council).

### Wednesday, March 21

CHESTER BRANCH, PHARMACEUTICAL SOCIETY, Blos-soms Hotel, Chester, at 7.15 for 7.45 p.m. Annual dinner.

NORWICH BRANCH, PHARMACEUTICAL SOCIETY, Y.M.C.A., St. Giles Street, Norwich, at 7.45 p.m. Brains trust; question master, Mr. J. Cook.

WESTERN PHARMACISTS' ASSOCIATION and PHOTOGRAPHIC DEALERS' ASSOCIATION, 17 Bloomsbury Square, London, W.C.1, at 7.30 p.m. Mr. K. Macdonnell (Johnsons of Hendon, Ltd.) on "The Schoolboys' Exhibition."

## TRADE REPORT

Spot quotations for pharmaceutical chemicals represent the prices for wholesale quantities of standard quality. Prices of crude drugs and essential oils vary as to brand or grade.

London, March 14

Most sections of the PHARMACEUTICAL and FINE CHEMICALS market are receiving a good volume of inquiry though deliveries are still being held up by shortages of raw materials. Price changes during the week have included a further rise in ZINC SULPHATE prices and an increase of 2s. per lb. in SULPHACETAMIDE both to some extent reflecting the tight position and higher cost of SULPHURIC ACID. It will not be apparent for some time to what degree the United States slackening-off of stockpile purchasing will affect the chemicals market and other commodity markets.

### Quiet Drug Market

Consumers are showing less interest in CRUDE DRUGS and trading in the market last week was quiet. Cape ALOES is again dearer and the market for the Curaçao variety continues firm. Sumatra BENZOIN is a stronger market: forward prices are now at £28 10s. per cwt., c.i.f. CAMPHOR remains steady; there is now a supply of 2½-lb. slabs on the spot. Portuguese ERGOT is in small compass and is commanding higher prices. COCHINEAL has been in good demand and the market is firm. GENTIAN is slightly easier with a slackening-off of demand. IPECAUANHA is in short supply and there are few offers from Central America. A moderate trade has been done in BUCHU and spot supplies are depleted; forward prices for new-crop leaves are unchanged. The best grades of Chinese RHUBARB are in short supply though medium grades and wormy root appear to be fairly plentiful. A good trade has been done in Tinnevelly SENNA LEAVES. STYRAX is now scarce and receiving a good inquiry for spot supplies. In the BALSAMS there is a small supply of CANADA available on the spot and also of "manipulated" TOLU (B.P.) but there are still no offers of COPAIBA and PERU balsams. MENTHOL is quiet and the market is slightly easier. There are no offers of Jamaica native red SARSAPARILLA from the origin.

Only a small trade is reported in ESSENTIAL OILS and the market generally is very firm with many oils in tight supply. Ceylon CITRONELLA and LEMONGRASS are again dearer. There is little interest in Chinese star ANISE. Chinese PEPPERMINT is short on the spot. CARAWAY has been in good inquiry but only limited supplies are available until new-crop seed arrives in September. LAVENDER is attracting little attention at the current high level of prices. Spanish oils are firm. Business is reported in Sicilian LEMON for shipment from the origin at 70s. per lb., c.i.f. EUGENOL is dearer.

### U.S. Drug and Chemical Report

New York, March 9

The United States is faced with an unprecedented shortage of chemicals with the tight position of SULPHUR and SULPHURIC ACID affecting the production of a wide range of items. PERMANGANATE OF POTASH has become very scarce while the difficult supply position of ALKALIS is being reflected in several SODIUM compounds. FINE CHEMICALS are reported to be feeling the effects of this shortage. PERBORATE is reported to be commanding considerable interest, owing to the limited quantities available at first hand. BORIC ACID is very short. Production of OXALIC ACID is running considerably behind deliveries and occasional odd lots of HYDROGEN PEROXIDE are commanding premium prices. Imported CREAM OF TARTAR, purchased some time ago, is being offered at 32 cents per lb., duty paid, but, as soon as the small lots are disposed of, the market will be practically bare of imported material because of high replacement costs which cannot be met under the price ceiling regulations. The U.S. Government is reported to be negotiating for the purchase of about 30,000 flasks of MERCURY from Italy with E.C.A. funds. MENTHOL has declined further in price and is now available at \$13.55 per lb. The CRUDE DRUGS market continues quiet with a major problem still one of supply and future costs in view of price ceilings. Spot supplies of ERGOT have been exhausted and quotations are nominal. Cape ALOES is firm while demand for TRAGACANTH is brisk. Offerings of the latter from Iran are restricted. With a smaller consumer demand for CARNAUBA WAX prices have declined. A good inquiry is reported for ESSENTIAL OILS and AROMATIC CHEMICALS but trading has been restricted as most holders are reported to be reluctant to sell goods in the present unsettled conditions.

### Pharmaceutical Chemicals

ACETANILIDE.—1-cwt. lots are 2s. 5d. for crystals and 2s. 6d. per lb. for powder.

ATROPINE.—Rates per oz. are: ALKALOID, 53s. 9d.; 4-oz., 53s. 3d.; 25-oz., 52s. 9d. SULPHATE, 44s. 9d.; 4-oz., 44s. 3d.; 25-oz., 43s. 9d. METHYL NITRATE in 4-oz. lots is 74s. 6d. and METHYL BROMIDE, 73s. per oz.

CITRATES.—In good request. Supplies are on quota. Rates per lb. are as follows:—POTASSIUM, 1 cwt., 3s. 8½d.; 28 lb., 4s. 7d. SODIUM, 1 cwt., 3s. 2½d.; 28 lb., 4s. (Powder, one penny per lb. extra). IRON AND AMMONIUM, scale, 1 cwt., 4s. 2½d.; 28 lb., 5s. 3d. (Granular, one penny per lb. less).

**COCAINE.** — Current rates per oz. are: ALKALOID, CITRATE and SALICYLATE, bottles,  $\frac{1}{2}$ -oz., 89s.;  $\frac{1}{2}$ -oz., 85s.; 1-oz., 82s. 6d.; oz., 80s. 6d.; 4-oz., 79s. 3d.; 8-oz., 8s. 3d.; 16-oz., 75s. 3d.; tins, 25-oz., 3s. 9d. HYDROCHLORIDE, NITRATE and SULPHATE bottles,  $\frac{1}{2}$ -oz., 79s.;  $\frac{1}{2}$ -oz., 75s.; oz., 72s. 6d.; 2-oz., 70s. 6d.; 4-oz., 9s. 3d.; 8-oz., 68s. 3d.; 16-oz., 65s. 3d.; ins, 25-oz., 64s.

**DEXTROSE.** — MONOHYDRATE, B.P. (in less than 5-cwt. lots), 28-lb. tins are quoted at 40s. per tin; 14-lb. tins, 21s. 6d.; 1-lb. tins, 11s. 6d.; less 12½ per cent. to wholesalers, delivered. In quantities of 1-cwt. and over, 28-lb. tins are 2s., 14-lb. tins, 1s. 6d. and 7-lb. tins, 1s., less than above prices. ANHYDROUS, B.P. (in less than 5-cwt. lots), 28-lb. tins, 42s. per tin; 14-lb. tins, 22s. 6d.; 7-lb. tins, 12s.; less 2½ per cent. to wholesalers, delivered. Reductions for quantities of 5-cwt. and over are the same as for the monohydrate.

**EPHEDRINE.** — In 100-oz. lots ALKALOID is now 14s. per oz.; for the same quantity HYDROCHLORIDE is 8s. 6d. and SULPHATE 0s. per oz.

**HEXOBARBITONE.** — Quotations are in the region of 90s. 9d. per lb. for smalls.

**HYDROQUINONE.** — In short supply. 1-cwt. lots are 10s. 9d. per lb.; 28-lb., 11s. 3d.; 14-lb., 11s. 6d.; 7-lb., 11s. 9d.

**ISOPROPYL ALCOHOL.** — Prices range from 5s. 3d. to 16s. 9d. per gall., as to quantity.

**MERCURY DERIVATIVES.** — Nominal quotations (per lb.) for 1-cwt. lots are: AMMONIATED, B.P., lump or powder, 21s. 9d.; PERCHLORIDE, B.P., powder, 19s. 6d.; CHLORIDE, B.P. (calomel), 22s. 6d.; OXIDES, B.P.C. levigated, or yellow B.P., 24s.

**METOL.** — In short supply. 1-cwt. lots are 22s. per lb.; 28-lb., 23s.; 14-lb., 25s.; 1-lb., 26s.

**STRYCHNINE.** — Current rates per oz. are given in the following table:—

COMPOUND	Under 25 oz.	25 oz.-	100 oz.-	500 oz. and over
		99 oz.	499 oz.	
ALKALOID, B.P.C.		s. d.	s. d.	s. d.
	7 4	7 2	7 0½	6 11
SULPHATE ...	6 2	6 0	5 10½	5 9
HYDROCHLORIDE, B.P. ...	6 11	6 9	6 7½	6 6
NITRATE, B.P.C. ...	6 11	6 9	6 7½	6 6
PHOSPHATE ...	8 0	7 10	7 8½	7 7
SULPHATE, B.P.C.	6 5	6 3	6 1½	6 0

Special discounts are allowed for large buyers.

**SULPHACETAMIDE.** — Quotations are in the region of 26s. 6d. to 28s. 6d. per lb. The SODIUM derivative is 31s. to 34s. per lb.

**THYMOL.** — 28-lb. lots are 31s. 6d.; 14-lb. lots, 32s.; and 7-lb., 32s. 6d. per lb.

**ZINC SULPHATE.** — Dearer. 1-cwt. lots are quoted at 1s. 1d. per lb.

## Crude Drugs, etc.

**ALOES.** — Cape on the spot is quoted at from 310s. to 320s. per cwt.; afloat, 310s. c.i.f.; for March-April shipment, 305s. c.i.f. Curaçao is offered at 295s. per cwt., spot, and for shipment, 285s., c.i.f.

**BENZOIN.** — Sumatra block on the spot is steady at £30 per cwt.; for shipment, £28 10s., c.i.f. nominal. Siam almonds on the spot are about 37s. 6d. to 38s. per lb.; broken almonds, 26s. 6d. per lb., spot.

**CAMPHOR.** — Chinese refined powder (B.P.) is 5s. to 5s. 3d. per lb., spot, duty paid (4s. 7½d. in bond);  $\frac{1}{2}$ -oz. tablets, 6s. 3d. to 6s. 6d., duty paid; 2½-oz. slabs, in bond, 4s. 9d. (to arrive, 4s. 9d.).

**CANADA BALSAM.** — Spot quotations are in the region of 27s. 6d. per lb.

**CASCARA SAGRADA.** — Steady. 1950 bark on spot is 385s. to 390s. per cwt., duty paid (350s. in bond); new-peel for May-June shipment, 345s., c.i.f., indicated.

**CLOVES.** — Zanzibar is quoted at 4s. 5d. per lb., on the spot; for shipment from the origin, 4s. 6d. c.i.f.

**COCHINEAL.** — Firm. In good inquiry. Nominal spot values are 8s. 9d. per lb. for black and 7s. 6d. to 8s. 7d. for silver grey. Black, afloat, quoted from 8s. 1d. to 8s. 3d. per lb., c.i.f., as to quality.

**ERGOT.** — Portuguese now arriving is offering at from 87s. 6d. to 90s. per lb.

**GENTIAN.** — French on the spot, 140s. per cwt., quoted. An easier market.

**GINGER.** — Easier. African, spot, at 260s. per cwt.; new-crop for March-April shipment, 215s., c.i.f. Jamaican, new-crop, March-April shipment, No. 3, 407s. 6d.. c.i.f.

**GUM ACACIA.** — Kordofan cleaned sorts on the spot, 142s. 6d. per cwt.; for March-April shipment, 116s. c.i.f.

**IPECACUANHA.** — Firm. There are few offers. Nicaraguan, for shipment, 57s., c.i.f. Colombian, for shipment, 55s., c.i.f.; small supplies on the spot are quoted at 58s. per lb.

**KOLA NUTS.** — Spot. African halves are offering at from 5d. to 6d. per lb., as to quality: quarters are quoted at 6½d. per lb.

**MENTHOL.** — Quiet. Chinese on the spot is from 98s. to 100s. per lb., duty paid (93s. 6d. in bond); for shipment from Hong Kong, 88s. c.i.f., nominal. Brazilian, April-May shipment, 82s. 6d., c.i.f.

**ORANGE.** — Spanish quarters are quoted at 1s. 8d. and thin-cut Tripolitanian, 2s. 2d. per lb., duty paid in London.

**PODOPHYLLUM ROOT.** — Indian on the spot is quoted at 510s. per cwt.

**QUASSIA.** — Chips on the spot are offered at 35s. per cwt.; for shipment, 28s., c.i.f.

**QUINCE SEED.** — Cape on the spot, 4s. per lb.; Continental, 3s. 0½d. per lb., spot.

**RHUBARB.**—Chinese rough-round root on the spot is about 8s. 6d. per lb. for two-thirds pinky fracture. Lower grades are from 3s. to 6s. per lb., duty paid.

**SAFFRON.**—Spanish on the spot is available at 276s. per lb.

**SARSPARILLA.**—Sellers are asking 2s. 7d. per lb. for spot Jamaican native red; no offers from the source.

**SEEDS.**—Turkish ANISE on the spot is 150s. per cwt., in bond, and 16s. per cwt., duty paid. Cyprus now landing, 165s. per cwt., duty free. **CARAWAY.**—Dutch remains firm at 225s. per cwt., duty paid in London. **CELERY.**—The forward price for Indian is much dearer but spot price remains unchanged at 1s. 10½d. per lb.

**CORIANDER.**—Market inclined to be easier. Shippers of new-crop Morocco are indicating a lower price for May-June shipment. Spot Morocco is quoted at 195s. per cwt., duty paid, and 190s. per cwt. in bond. Old-crop material for prompt shipment, 185s. per cwt., c.i.f., quoted.

**CUMIN.**—Market firm. Cyprus of low quality offering on spot at 255s. per cwt. Shipment: Cyprus now afloat, quoted at 257s. 6d. per cwt., c.i.f.; Morocco, 285s. per cwt., c.i.f.; and Indian (new-crop) for May-June shipment, at 230s. per cwt., c.i.f.

**DILL.**—Indian quiet and unchanged at 80s. per cwt., spot. **FENNEL.**—Indian nominally 120s. per cwt., spot. **FENUGREEK.**—Morocco, 52s. 6d. per cwt., duty paid, spot London or Liverpool.

**SENEGA.**—No offers from the origin; last business reported at 23s. 6d. per lb., c.i.f. Spot supplies are valued at 23s. 9d. per lb.

**SENNIA.**—Prices are unchanged. Tinnevelly leaves, f.a.q., No. 2, 1s. 5½d.; No. 3, 1s. 4d.; No. 4, 1s. 3d. per lb., all ex warehouse London. Tinnevelly pods, hand-picked, 2s. per lb. Alexandrian manufacturing pods have been sold at 1s. 6d. per lb., spot.

**SHELLAC.**—Easier. Spot F.O.T.N., pure is 400s.; F.O. Standard 1, 435s.; and fine orange, 450s. to 510s. per cwt.

**STROPHANTHUS.**—Firm. *Kombé*, 100 per cent., is 21s. per lb. on the spot.

**STYRAX.**—Scarce. Spot supplies are valued at 8s. 9d. per lb.

**TONKA BEANS.**—In good inquiry. Frosted Pará are offered at 6s. 6d. per lb., and Trinidad at 7s. 6d. ex warehouse.

**TRAGACANTH.**—Firm. No. 1 ribbon on the spot is £200 per cwt.; No. 2, £175; No. 3, £155; No. 4, £85.

**TURMERIC.**—Madras finger is offered at 100s. to 105s. per cwt., spot London: for shipment, March-April, 95s., c.i.f., quoted.

**VALERIAN.**—Belgian on the spot is quoted at 185s. to 190s. per cwt., spot. Indian is 160s. per cwt., spot; for shipment, 160s., c.i.f., quoted.

## Essential and Expressed Oils

**ANISE.**—Supplies on the spot are offered from 15s. to 15s. 3d. per lb.; for shipment, 14s. 9d., c.i.f.

**BAY.**—West Indian is firmly held at from 12s. 6d. to 14s. 6d. per lb., as to quality.

**CADE.**—Spanish oil, B.P., on the spot is quoted at from 3s. 6d. to 4s. per lb.

**CARROT SEED.**—Quotations for spot supplies are from 85s. to 90s. per lb.

**CITRONELLA.**—Ceylon is offered at 20s. per lb. on the spot; for shipment, 19s. 9d. per lb., c.i.f.

**CLOVE.**—English-distilled bud oil is from 30s. to 30s. 9d. per lb.: Zanzibar-distilled stem oil is nominal at 18s. per lb., spot. A small supply of Madagascar leaf oil is available at 15s. per lb., duty paid.

**CORIANDER.**—Firm. Oil from Russia seed is selling at about 195s. per lb., ex warehouse; prices, however, will rise owing to higher cost of seed. Oil ex Dutch seed is quoted at 185s. per lb. Other grades of English-distilled oil are quoted at from 240s. to 260s. per lb., as to quantity.

**GERANIUM.**—Sellers are asking prices from 180s. to 185s. per lb. for Bourボon on the spot. African, new-crop, May-June shipment, 190s. to 195s. per lb., c.i.f.

**LAVENDER.**—Firmer. Little interest being shown. French, 38-40 per cent. linolol, on the spot is nominal at 55s. 6d. to 57s. 6d. per lb.; 40-42 per cent., 57s. 6d. to 60s. Spanish spike is from 28s. to 29s. per lb., on the spot.

**LEMON.**—Prices have risen further. Business is reported done for shipment at 68s.-70s. per lb., and 72s. 6d., c.i.f., is now asked for new-crop Sicilian oil. On the spot, oil adjusted to a minimum 4 per cent. citral content is quoted at about 45s.

**LEMONGRASS.**—Firm. Spot, nominal at from 35s. per lb.; for shipment, March-April, 33s. 6d., c.i.f.

**LINSEED.**—The Minister of Food announces that the price of linseed oil allocated to primary wholesalers and large trade users will be increased from £144 to £160 per ton, naked ex works, during the period from March 4 to March 24.

**PATCHOULI.**—Steady. Spot quotations are in the region of 165s. to 175s. per lb.

**PIMENTO BERRY.**—English-distilled oil, 65s. to 70s. per lb. Imported oil is from 44s. to 47s. 6d. per lb., spot.

**SANDALWOOD.**—Mysore oil on spot is from 82s. to 85s. per lb. East Indian, Dutch-distilled (95 per cent. santalol), 95s. per lb., duty paid. West Indian is available at 25s. per lb., spot. English-distilled, 80s. to 85s. per lb.

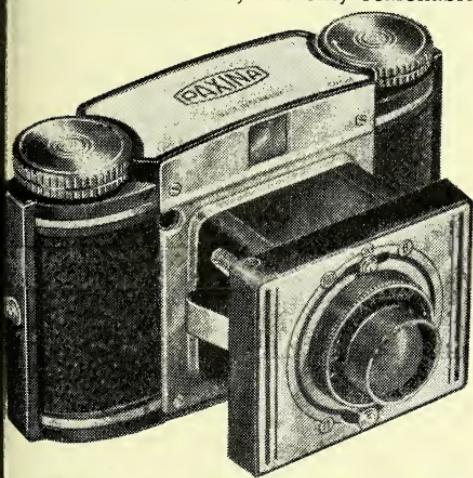
**SASSAFRAS.**—Brazilian natural is offering at from 7s. 6d. per lb., duty paid, spot London.

# THE PHOTOGRAPHIC DEPARTMENT

## PHOTO SALES IN THE COMING SUMMER

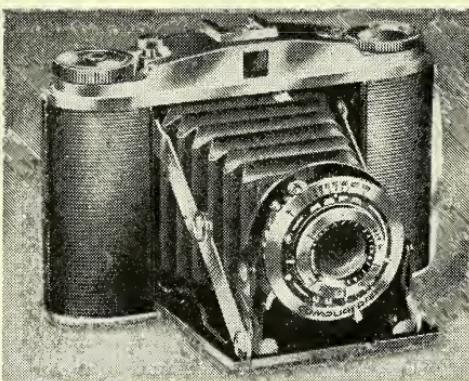
By Norman Jenkins

FOR photographic dealers the summer of 1951 should be better than any they have had in the past five years, despite difficulties caused by present restrictions on sulphuric acid, and limitations imposed by diversion of manufacturing effort. Those factors are serious, and may have a vital effect on photographic supplies in the autumn, but hardly sooner. The photographic trade is small and well-knit, customers are known and their likely trade can be assessed to a nicety. New-comers are welcomed, but only reasonable



PAXINA CAMERA, imported from Germany under licence by Neville Brown & Co., Ltd.

orders are going to be met. The wise pharmacist will lose no time in making his inquiries and placing orders. Where should those orders be placed? Sensitive materials, and a certain amount of cameras and other equipment, can be obtained from Dufay-Chromex, Ltd., London, S.W.1; Ilford, Ltd., Ilford; and Kodak, Ltd., Harrow, to name the home producers. Imported films include Bauchet (Actina, Ltd., London, W.C.1); Ferrania (Neville Brown & Co., Ltd., London, W.C.2), and Gevaert (Gevaert, Ltd., London, N.W.10). Agfa, Ltd., are importing printing paper, whilst E. N. Mason & Sons, Ltd. (Criterion), are producing materials perhaps less likely to



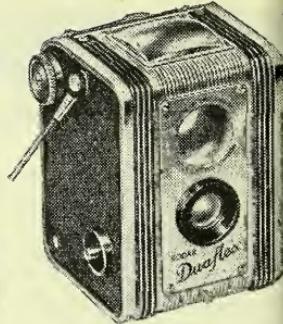
AGFA ISOLETTE II f/4.5 CAMERA, Agfa, Ltd.

appeal to the average amateur, but are well worth trying as a source of supply for materials required by large industrial concerns. There is still a certain amount of ex-Ministry of Supply material about, spooled up and sent out by various concerns. Properly handled it is satisfactory, but prudence suggests dealing only with known concerns—a policy that applies equally to makers who say their product is not ex-Government. Film-making is an elaborate process that cannot be reliably done on a small scale.

From film it is an easy transition to chemicals. The present trend is to deal only in packaged, branded and well-tried developers, fixers, etc., whether powder or liquid. The larger suppliers of materials include chemicals in their ranges, whilst the specialists, like Johnsons of Hendon, Ltd., and May & Baker, Ltd., Dagenham, are universally known. The Genochrome process (for prints in colour) of Messrs. May & Baker, serves to show that other than film makers are interested in colour problems.

Of cameras, quite a choice is currently available. There are a few German cameras (most of the supplies of which seem to have been bespoken already). The Paxina (Neville Brown) is one; it has an all-metal extending box front and takes twelve pictures on a 120 film; the Bilora (Actina) range includes a box camera and

Left: CONWAY DE LUXE BOX CAMERA, Standard Cameras, Ltd. Centre: CORONET D20 BOX CAMERA, Dufay-Chromex, Ltd. Right: KODAK DUAFLUX REFLEX-TYPE CAMERA, Kodak, Ltd.



a 35-mm. miniature. The imported German cameras are all, of course, in the lower price bracket,

owing to present limitations. Hopes are high that the long-awaited Reid camera of Reid & Sigrist, Ltd., Leicester, will make its appearance this summer, and thus satisfy quite an amount of suppressed longing for the lamented Leica.

Only within the past few weeks has the Kodak Duaflex become available; judging by window displays, some dealers have shown their faith in it by investing fairly heavily in stocks. The twin-lens type of camera, of which it is an example, is very popular, the viewfinder lens arrangement giving a more easily visible image; the picture is, of course, square.

#### Popular-priced Cameras

The Conway de Luxe box camera (Standard Cameras, Ltd., Birmingham), is claimed to be the only popular-priced camera in the world with built-in portrait attachment and colour filter. The Coronet range of Dufay-Chromex, Ltd., London, includes four models, but forward buying by dealers and heavy export orders are preventing early deliveries of new orders. The Gnome box-form cameras (Gnome Photographic Products, Ltd., Cardiff) have not long been established but have already been in considerable demand, if, indeed, any remain available at all. The Ilford Craftsman is somewhat similar to the Kodak Duaflex but in a different price class; it is an instrument much superior to the box camera. The Ensign Selfix range and the Fulvue, both by Barnet Ensign Ross, Ltd., London, E.17, are of very different types; the latter is a most successful box camera, and the former includes some really excellent picture-making equipment. The Pontiac Baby Lynx miniature ( $f3.5$ , Pron-

tor II shutter) camera is available through Photo Science, Ltd., London, W.14.

The recent announcement by Kershaw Soho (Sales), Ltd., of their King Penguin, with self-erecting and synchronised-flash features, gives good promise that a moderately priced camera will be available in reasonable quantity.

Specialist cameras should also be mentioned. Dawe Instruments, Ltd., have produced a clinical camera using 35-mm. film, flash bulbs and an "applicator" (which takes care of focusing), the combination making a practically fool-proof method of obtaining accurate photographs of small areas. An ingenious system of mirrors is used to canalise the light along the axis of the camera lens.

It may be timely to remind readers of the £3,500 must-be-won Dufay "snap" contest. 750 Coronet cameras have been reserved as consolation prizes, and national advertising is due to appear, including a "Daily Express" half-page. Dealers may qualify for bonuses of up to £100. (De-tails, p. 333).

Dawe Instruments, Ltd., London, W.1, have a wide range of electronic flash and flash-measurement equipment suitable for industrial or hospital work. The company's new Press camera which, in the writer's opinion, outshines any other for the facilities built into such a compact space, is well worth considering for the concern that extends its activities to covering news events, and the type of action photography that demands high precision.

Kirn Precision Instruments, Ltd., Dunoon, who have become quite famous just lately for a most ingenious viewfinder for miniature cameras that enables both eyes to be used, have also available a finger-

print camera. This is completely self-contained and has both batteries and a mains connection for internal lighting; the open end of the camera is placed over the specimen, the button pressed, and everything else is automatic.

D. Shakman & Sons, London, W.1, a relative newcomer, offer but one photographic product—a precision miniature camera with automatic mechanism whereby sequence photos of instruments, small objects or manuscripts can be taken with the least fatigue and highest possible output. A single small cabinet acts as a desk-stand, on which is a vertical column. Projector (with reflected light—to deflect heat) and camera use the column in turn; they are swung out or into use at a touch. The Copycat system of making facsimile copies is the quickest means of obtaining a photographic—or any other—copy of an original. Few businesses of any size can afford these days to be without some such facility. Though normal developing and printing processes are used, no darkroom is needed.

When advising clients in the use of industrial equipment a considerable amount of real difficulty can often be saved by considering the mechanical functions of a camera as a separate problem from the optical—although they cannot be entirely divorced. Whilst there may be only one camera model that will do the work required consistently well, there may be a choice of lenses. Probably the only optical firm left that has not entered the camera field in recent years is J. H. Dallmeyer, Ltd., London, N.W.10, who can offer lenses of practically any standard and suitable for all purposes, from television and film work to extreme-length telephotography. The company's range extends to recent developments in special lenses for miniature cameras—especially the f1.9-5.5 mm. Super Six, Dallac and Dalrac series.

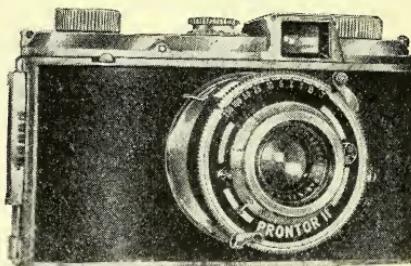
The biggest users of film-strip projectors, ciné projectors and epidiascopes are undoubtedly educational authorities, with "big business" next in the commercial sales and industrial education fields. Aldis, Ltd. (agents: Neville Brown), Elite Optics, Ltd., High Wycombe, Bucks, G. B. Equipments, Ltd., Perivale, and Pullin Optical Co., Ltd., Brentford, offer between them a wide choice of still-picture projectors. In the sound-on-film field G. B. Equipments, Ltd., British Thomson-Houston Co., Ltd., Rugby, and Simplex-Ampro, Ltd., London, W.1, all offer suitable apparatus. Circumstances must govern the decision be-

tween them. The Dekko 16-mm. projector of Dekko Cameras, Ltd., London, W.3, is ideal for home use.

Lines and Jones, Ltd., Morecambe, who are now well known for their dark slides and roll-film adaptor, supply their Universal enlarger either complete or in kit-of-parts form. Enlargers to suit a limited pocket may also be obtained from the deservedly popular range manufactured by Gnome Photographic Products, Ltd., Cardiff, who, incidentally, have equipment to cover most purposes.

### Exposure Meters

Of exposure meters there is a happily wide choice. The Weston Master series of Sangamo Weston, Ltd., Enfield, hold their place in the photographer's esteem. The Pullin is becoming very popular; the Met-Vick (Metropolitan Vickers Electrical Co., Ltd., London, W.C.2), and the G.E.C. (General Electric Co., Ltd., London, W.C.2), are not often advertised but both are believed available, as is also the excellent Ilford. All these are, of course, photo-cell types. The much cheaper extinction, or visual, type of meter is being reproduced on all sides. Almost all of the wholesalers and agents have something to offer. Actina, Neville Brown and Photax (Photax (London), Ltd., London, W.1), all have extinction meters. Evans Electro-selenium, Ltd., Harlow, Essex, although concerned with light measurement, have interests that lie mostly in the supply of photo-cells and instruments outside the amateur sphere. Their Densitometer is an invaluable aid to the colour worker, as is their colour temperature meter.



PONTIAC BABY LYNX CAMERA  
for 35-mm. cassettes, Photo-Science, Ltd.

K. G. Corfield, Ltd., Wolverhampton, offer some unique items in the accessory field. The Telemeter and new exposure meter and the Lumimeter all have their individual approach and are selling well.

# DEVELOPING, PRINTING AND ENLARGING PRICE

Photographic Dealers' Association Revised Prices, March 1951

## Developing

ROLL FILM, all spools (other than miniature), per spool:—Ordinary, 9d.; fine grain, 1s.; bantam and similar, 1s. (50 per cent. charge for failures). Miniature spools, 35 x 24 mm., and smaller negatives:—1—18 exposures, 1s. 3d.; 19—36 exposures, 1s. 9d. (half charge for failures).

GLASS PLATES AND FLAT FILMS (minimum charge, sixpence):—Up to 2½ x 3½ in., 3d.; 4 x 5 in., 4d.; 4¾ x 6½ in., 6d.; 6½ x 8½ in., 7½d. each.

WORK ON NEGATIVES:—Cleaning, washing, intensifying or reducing, single negatives (up to 5 x 7 in.), 9d. each; each additional negative, 3d.; blocking-out, according to work required, 1s. minimum.

## Contact Printing

Masked or unmasked, paper size up to 2½ x 3½ in., 3½d.; 3½ x 4½ in., 4d.; 3½ x 5½ in., 4½d.; 4¾ x 6½ in., 6½d. each. Sepia toning 50 per cent. extra.

Miniature contact printing, 35 x 24 mm. and smaller negatives, single prints (masked), 3½d. each; two or more adjacent prints (unmasked proofs), as to size.

35-mm. paper strip of proof prints, 1—18 exposures 36 x 24 mm., 2s. 6d.; 19—36 exposures 36 x 24 mm., 3s. 6d. per strip.

## Enlargements, first-quality, unmounted

From any selected portion of negative, including shading, vignetting and spotting if required. (Dimensions quoted are standard sizes of enlarging papers, and are subject to trimming.)

Paper Size	B. & W.	Sepia	Mounting Extra
UP TO	each	each	
3½ x 4½ in. ...	9d.	1s. 1½d.	—
3½ x 5½ in. ...	1s.	1s. 6d.	—
4¾ x 6½ in. (half plate) ...	1s. 6d.	2s. 3d.	1s. 6d.
6½ x 8½ in. (whole plate) ...	2s. 6d.	3s. 9d.	2s.
8 x 10 in. ...	3s. 6d.	5s. 3d.	2s. 6d.
10 x 12 in. ...	4s. 6d.	6s. 9d.	—
12 x 15 in. ...	5s. 6d.	8s. 3d.	—

## En-prints (formerly projection prints)

From whole of negative, magnified as large as possible on 2½ x 3½ in.; or 3½ x 4½ in. paper. ("Large" or "Small" to be

specified when ordering):—Black and white, 6d. each; sepia-toned 9d. each.

## Postcard-size Enlargements

(3½ x 5½ in.), from whole of negative only, black and white, 8d. each; sepia-toned, 1s. each. If from selected portion of the negative, 1s.; black and white, 1 each; sepia-toned, 1s. 6d. each.

## Lantern Slides

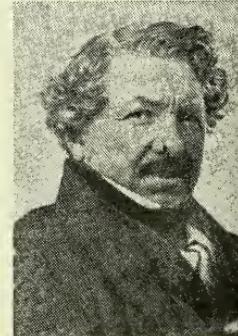
From customers' negatives 3½ x 3½ in. or 2 x 2 in., bound complete, 3s. each unbound, and without cover glasses, 2 each (any quantity); sepia toning 50 per cent. extra. Masking and binding between cover glasses customers' own transparencies, 1s. each.

## Copy Negatives

From photographic originals only (books, maps, etc., charged extra), up to 4-plate 3s.; 3½ x 5½ in., 4s.; 4¾ x 6½ in., 5s.; 6 x 8½ in., 10s.

## L. J. M. DAGUERRE

JULY 12, 1951, will see the centenary of the death of Louis Jacques Mand Daguerre, the distinguished photographic pioneer. Born at Cormeilles-en-Parisis, near Paris, in 1787, Daguerre studied art and became interested in the pictorial effect of light. He opened in Paris the first diorama, in which painted views were faded into each other by arrangements of lighting. Niépce, who had made other discoveries, visited the diorama, but would not reveal his secrets until Daguerre disclosed that he had found a means of fixing the image seen in a darkroom, whereupon the two agreed to join forces. Almost accidentally Daguerre discovered the effect of light on silver iodide, and with the younger Niépce he tried to interest the public in a process for producing images. In 1839 the French Government acquired the invention. (Daguerre's description of his method was given in the *C. & D.*, 1939.I.383.)



## FLASHLIGHT PHOTOGRAPHY

By Arthur H. Palmer

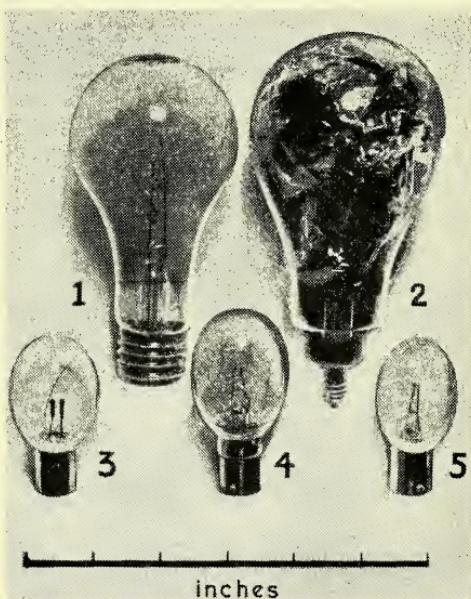
ALTHOUGH in the United States the volume of developing and printing business handled during the winter months averages about one-third of that generated during the summer season, in this country the ratio is set at not more than 1:8. One of the chief reasons put forward for the American dealer's fortunate position is that his customers are "flash-conscious." Nor does his advantage apply only in the realm of D. and P.—or "finishing" as it is called in the States. Sales of film continue, and with them those of flash bulbs. Now that flash bulbs are becoming more readily available in this country, as are even low-priced box cameras with flash-synchronised shutters, the British photographic dealer should grasp the opportunity of extending the photographic "season" by convincing his public that flashlight photography is easy and safe, and that it opens up new and interesting fields for the owner of even the simplest camera.

### Brief History

The idea of making exposures by the aid of brief but intense sources of light is almost as old as photography itself. Fox Talbot is credited with having experimented with spark photography employing Leyden jars to store the necessary electrical energy. Obviously such apparatus would be far from portable, and so the quest began for some portable, convenient and efficient source of actinic light. It may seem strange that, though the metal magnesium was isolated and its properties described by Sir Humphry Davy in 1808, it was a century passed before Bunsen in Tübingen and H. E. Roscoe in Manchester suggested, in 1859, the possible value of magnesium as a source of light for photography. Its use was restricted for a time by its high cost, but that is no longer a barrier.

Not until early in 1864, it appears, were the first successful photographs taken by magnesium light made. In that year A. J. others, Manchester, obtained a stereoscopic negative of a Derbyshire mine. In May of the same year he made, at the Royal Institution, a portrait of Professor Faraday, whose work was later to launch the vast electrical industry that has done much for photography.

In those early years magnesium was burned as either ribbon or powder. The ribbon was slow-burning, and could be used only for static subjects. The powder was blown by air pressure, by means of a rubber bulb, through a spirit flame. Later, rapid and complete combustion was effected



Typical flash bulbs: 1, G.E.C. type 22. 2, Large Sashalite. 3, G.E.C. Speed Midget. 4, Philips Photoflux PF 25. 5, Stellaflash SF 14.

by mixing the metallic powder with oxidising agents. All those methods suffered the considerable disadvantage of creating a vast amount of smoke, and precipitating a layer of oxide on everything in the vicinity of the operations. The flash powder, though more readily ignited—by a touch fuse, percussion cap, or sparks from a flint wheel—had the additional disadvantage of being essentially an explosive mixture. Much thought was expended on devising methods of catching the smoke, and ingenious pieces of apparatus have been described. Experiments were made using aluminium, which yields less smoke but whose light is less actinic than that of magnesium.

A lamp for burning magnesium ribbon in oxygen was devised by McLellan in

1882, and an improved model was placed on the market by the Platinotype Co. in 1899. Those, then, were the forerunners of the modern flash bulb.

In the early 1930's there appeared the Sashalite bulb, which marked a great step forward. The comparatively large degree of safety afforded by burning finely beaten magnesium foil in a glass bulb containing oxygen at low pressure enabled photographs to be made in situations where the combustion of magnesium in the air was impracticable. The popular Press began to carry reproductions of photographs made in submarines (where the hydrogen from the batteries would have ruled out any idea of using a naked flame) and other novel pictures such as those taken in coal mines. Another valuable asset the Sashalite bulb afforded the Press photographer was that he could operate in confidence in wet weather—damp flash powder was either "dud" or explosive, and therefore very uncertain.

### Possibilities of Synchronisation

The bulb was similar to an ordinary electric lamp bulb. There were several sizes and a choice of caps. Inside was a low-voltage filament that glowed on being connected to an ordinary torch battery. The heat from the filament was sufficient to ignite the foil, which burned very brilliantly and rapidly, the combustion taking about  $1/75$  sec. The fact that the bulb could be fired electrically from a small battery opened up the possibility of linking the flash with the shutter, and thus synchronised flash photography became practicable. Ingenious attempts at synchronising flash pans in which powder was used had, of course, been made.

Other advantages the flash bulb opened up were the possibilities of using reflectors to direct light, and of linking two or more lamps to fire simultaneously. Flash "guns" having a torch battery in the handle and a large polished reflector began to appear on the market. The gun was "fired" by a finger trigger, while sockets were provided for connecting leads to the camera or other bulbs. The Sashalite bulb continued to be used until quite recently. In fact, ex-Government stock is still to be found on sale, though manufacture has ceased. During the 1939-45 war, flash pictures were taken by authorised photographers without "breaking the black-out" by the method of fitting infra-red filter envelopes over the bulbs.

Valuable as the beaten-foil bulb was its reliability in synchronisation was not all that could be desired, and it is believed that there were manufacturing difficulties. That type of bulb has been superseded by similar bulbs in which the beaten foil has been replaced by fine wire or shredded foil (which looks like wire). Generally speaking the newer bulbs are smaller than the Sashalite, and the most common used cap is the A.S.C.C., as used on motor car lamp bulbs. The glass envelope coated with a varnish to prevent the flying of glass fragments should the bulb burst. Some bear a "safety spot"—presumably of a cobalt salt which is blue if the bulb is in perfect condition but turns pink if it leaks into the bulb. The convenience of the smaller bulbs to the Press photographer needs no emphasis.

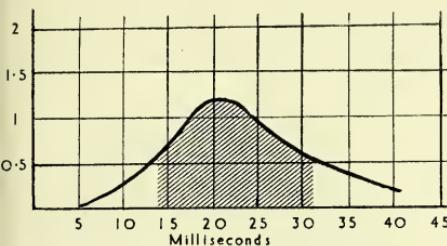
One modern bulb, however, is in a class of its own. It is the Speed Midget, in which the combustible material is applied to the filament support as a paste (but not in the illustration). The rapidity of operation differs also from that of the others. It has a "delay" of only 7 milliseconds (0.007 sec.) while the majority have a delay period standardised as 1 millisecond.

### Measurement of Output

In the study of these modern flashbulbs a set of units not frequently met with must be introduced. First, the light output must be known to enable the photographer to select a bulb that will give him sufficient light for the purpose in hand. The total quantity of light emitted is stated in lumens/seconds, a lumen being the amount of light falling upon an area of 1 sq. ft. of surface, every point of which is 1 ft. from a point source of light having an intensity of one international standard candle. Obviously, then, the pressman will wish to photograph a large crowd which requires a bulb with a large total output. The amateur seldom needs so large an output. Peak intensity is stated in millions of lumens. Although the term "flash" is used, the cycle of action occupies a short but surprisingly predictable interval of time, which it is important to know when the firing of the bulb is effected by the shutter mechanism or by an external device that operates the shutter and closes the firing circuit.

It will be obvious that the peak of the flash should occur while the camera shutter is fully open. To accomplish that, the

lb firing circuit must be closed a fraction of a second (about  $1/50$  sec.) before the shutter opens. That is necessary because there is a short interval before the filament in the bulb reaches the required temperature to ignite the wire or shredded foil. Then the combustion sweeps through the foil to reach its peak output, after which cooling rapidly follows.



Typical time-output curve of small flash bulb.

The diagram (fig. 2) shows graphically the rise and fall of light output in a small bulb such as the amateur photographer would use. For the first five milliseconds, apparently nothing happens. During the next seventeen milliseconds the conflagration in the bulb becomes more and more intense until it reaches a peak 22 milliseconds after the contacts have closed. The peak output of this particular bulb is 1:2 million lumens. The peak having been reached, the material cools and in about 15 milliseconds after firing is "dead."

#### Synchronisation

On the curve is a shaded area commencing at 14 milliseconds and terminating at 31 milliseconds. The interval between those two points represents the period during which the light output is greater than the half-peak output. That interval of 17 milliseconds (rather less than  $1/50$  sec.) is important when the bulb is synchronised with a shutter set for a speed of  $1/50$  sec. or higher. If the shutter opens too early or too late, the available light is not used to best advantage. Imagine a shutter, set at  $1/200$  sec., opening 15 milliseconds after the contacts have closed. The shutter would have closed before the flash had reached its peak, and would utilise only the amount of light represented by the shaded area, between the intervals 15 and 20 on the time base. Synchronisation, then, becomes critical as the shutter speed employed

increases, but even when comparatively low speeds are used it is important that the opening of the shutter should not be much earlier than the "half-peak" time, nor so late that it closes much after the "descending half peak." On box-type cameras fitted with simple rotary shutters, open from 25 to 40 milliseconds, there is adequate latitude.

#### Open Flash

Except in one type of work dealt with later in this article, it is not essential that the camera shutter should be synchronised, nor is an external synchroniser necessary for flashlight photography indoors—or outdoors at night. Resort may be had to what is called "open flash" working. The camera is set upon a tripod or other rigid support and the shutter set to B. In a room, the general lighting may be left burning so long as no direct light shines into the lens. The subject must, of course, be static or nearly so—particularly if the general illumination is bright. When everything is ready, the camera shutter is opened, the flash fired and the shutter closed immediately. The exposure, of course, must be worked out as in any other branch of photography, and the makers of bulbs supply the necessary data, while there are on the market calculators specially designed for flashlight photography.

In deciding upon the settings to obtain good negatives in flash work, a set of conditions quite different from those that concern the daylight photographer have to be taken into account. First, the flash bulb emits a certain quantity of light in a certain time. That disposes of two variants that obtain in ordinary photography—light intensity and shutter speed. What variants then, does the flashlight worker have to consider? First, he must remember the inverse square law in relation to illumination. A subject at 10 ft. from the flash (which is generally near the camera) receives only one-quarter the intensity of light that falls upon a subject at 5 ft. from it, though the design of the reflector and its surface have some influence on the theoretical figure. The controls available, then, are camera-subject, distance, and lens aperture.

Makers of bulbs state, and there may be found in such tables as in the Photo Amateur's Pocket Book (Focal Press), what are known as flash numbers or guide numbers applied to bulbs. The numbers vary

according to the speed of negative material with which the bulbs are to be used. The significance of the flash numbers is that they are the product of the distance in ft. of the subject from the light source and the *f* number to be used to yield a well-exposed negative under normal conditions. Thus, a flash number of 80 suggests the use of *f*/10 at 8 ft., *f*/8 at 10 ft., *f*/16 at 5 ft. and so on. The tone of the surroundings, of course, influences the final decision, but after short experience the average amateur learns how to adjust the stop in any given set of circumstances. The advantage of the open-flash method is that any type of camera may be used without attachment or modification. The bulb can be fired by a 3- to 4½-volt battery, such as is used in pocket torches. Adapters are available to enable A.S.C.C. bulbs to be fitted in place of the torch bulb and fired by the normal switch.

### Synchro-flash in Daylight

The idea of using flash bulbs in bright sunlight is not so foolish as might appear at first sight. It will be remembered that many of the American troops over here during the war regularly used small flash bulbs when photographing in broad daylight. Probably that is more necessary in the hard lighting of their native land than in the slightly misty atmosphere of this country. It should be remembered that the brighter the light the deeper the shadow cast, and it is with the purpose of softening hard shadow from harsh lighting that synchro-daylight flash is employed. As, however, reasonably high shutter speeds must be used in daylight to "freeze" any movement of the subject and to prevent over-exposure, synchronisation of shutter and flash is essential.

Synchro-daylight flash is invaluable when photographing architecture to illuminate the interiors of porches and to penetrate the hard black shadows under canopies and other overhanging structures. In shady woods, where the sunshine illuminates the leafy boughs but fails to reach the lower trunks and the ground, synchronised flash enables the photographer to grapple successfully with the problem of high contrasts. In fact, it opens up new avenues for the enthusiastic photographer, just as flashlight itself released his forebears from their reliance on sunlight.

It will readily be understood that the synchronisation of focal-plane shutters presents problems in synchronisation far

greater than those appertaining to between-lens shutters. In the latter, an image focused on the film or plate over its whole area, so soon as the leaves begin to separate. With the focal-plane shutter the leading blind first uncovers one end or side of the sensitive material and the following blind may cover it before the first has completely passed across. The emulsion may be exposed in a series of strips through a travelling slit. It follows that the light during the travel of the slit must be reasonably uniform or exposure will be uneven.

The clear bulbs ordinarily used for black-and-white photography yield light of colour temperature around 4,000°K. (the Speed Midget 3,300°K.). That is rather lower than that of daylight, so that adjustment has to be made if colour photograph by flashlight is to be attempted. For use with daylight-type colour film the light is made bluer (i.e., its "colour temperature is raised) by colouring the envelope a very pale blue and so filtering the light as to give it a colour temperature of 6,000°K. If, however, the colour film in use is intended for use with tungsten illumination it is necessary to reduce the colour temperature of the light from the bulb by passing it through a yellowish filter of suitable colour to reduce it to 3,400°K. Bulbs suitably coloured are obtainable.

### Electronic Flash

The bulbs so far described are sometimes termed "expendable," since they can be used once only. The electronic flash bulb, however, is claimed to produce at least 10,000 flashes during its life. Although the first cost of the electronic flash apparatus is upwards of £60 including tax for those who have occasion to do much flash photography it may well prove cheaper in the long run than expendable bulbs. The typical electronic flash head is a spiral glass tube containing one of the rare gases—for example, xenon. Into each end of the spiral is sealed an electrode connected to the power pack. The spiral is protected by a dome-shaped glass outer envelope to which is fitted a base not unlike that of a radio valve. A third electrode, known as the triggering electrode, is fitted to the outside of the tubing. The chief disadvantage, apart from first cost, of electronic flash equipment is its weight, but already manufacturers are vying with one another to reduce the weight of the power pack.

# THE PHOTOGRAPHIC DEPARTMENT

## THE WET COLLODION PROCESS, 1851-1951

By Frank R. Smith, F.R.P.S.

MARCH 1951 marks the centenary of the wet collodion process of photography, one of the most beautiful and efficient methods ever invented. Even today the process is in use to a very considerable extent for industrial purposes.



Frederick Scott Archer

The first account of Frederick Scott Archer's invention was given under the title of "Archer's Collodion Process"

"The Chemist" of March 1851, twenty-two years earlier, in January 1839, Jacques Mandé Daguerre, a French painter, had announced the discovery of his Daguerreotype process, an account of which was published eight months later. The light-sensitive salt which Daguerre used was silver iodide, formed by fuming a silver-plated copper plate with iodine vapour. After exposure to the image in a camera, the latent-image portions of the silver iodide had an affinity for mercury that, in the presence of mercury vapour, a positive image of excellent quality appeared on the plate. Daguerre was most unfortunate in the limitations of his invention, for he was certainly the first man to produce thoroughly adequate photo-

graphs, but unhappily his process was virtually still-born because it was scarcely possible to produce duplicates; only one photograph could be produced from one exposure. Many examples still exist.

It was William Henry Fox Talbot, an Englishman, who first invented photography as it is known today, for he read a paper before the Royal Society in January 1839 upon "Photogenic Drawings," to produce which he treated paper first with common salt and then with silver nitrate to form silver chloride, producing a photographic negative upon it by the "print-out" effect, which could subsequently be printed on similar material to produce any required number of positive prints. Talbot's lead finally resulted in Scott Archer's brilliant invention, which allowed the production of excellent photographic negatives and marked the decline of the Daguerreotype. Archer's process was probably the most important single invention since the discovery of photography itself and, though it has long been superseded by the dry-plate technique for "pure" photography, it is still used to a tremendous extent for many photo-engraving purposes, and the finest geological lantern slides produced in recent years were also from wet plates.

### "Photogenic Drawing"

It is of value to trace the developments that led to Archer's discovery. Talbot's original "photogenic drawing" process depended upon the "printing-out" effect, his silver chloride paper containing an excess of silver nitrate and darkening spontaneously under the action of light, but the reaction was very slow and scarcely practicable for use in a camera. Talbot knew that silver iodide did not darken in that manner and, in fact, he "fixed" his images by bathing them in an iodide.

The Rev. J. B. Reade discovered that gallic acid, in conjunction with silver nitrate, would develop and render visible a *latent* image, and in 1841 Talbot patented his Calotype process by which a latent image in silver iodide on paper was developed, by the reduction of silver, from an excess of silver nitrate in the paper, and deposited only in the light-affected areas.

Sir John Herschel drew attention to the advisability of forming negatives upon glass rather than on paper, and in 1843 succeeded in producing a photographic negative of his telescope by exposing a piece of glass (on which he had deposited silver chloride) for several hours in a *camera obscura*, but the silver chloride was not held upon the glass in any way, and the image was altogether too fragile.

### Heliography

The Niépce family had been prominent in the development of photographic techniques ever since Nicéphore Niépce had discovered in 1826 a method, which he called "heliography," of duplicating steel engravings. His method used the photo-sensitivity of bitumen of Judea, and produced intaglio (etched) printing plates. Nicéphore had collaborated with Daguerre, and later a relative of his — Niépce the younger—also worked with Daguerre. A nephew, Niépce de St. Victor, invented in 1847 a process of coating albumen containing an iodide upon glass and then converting it to silver iodide in a bath of silver nitrate solution, afterwards exposing the plate to the image in a *camera obscura* and developing the latent image with gallic acid. In 1847 two Germans, Schönbein and Böttcher, had discovered that cotton wool could be converted by immersion in a mixture of nitric and sulphuric acid into nitrocellulose (gun-cotton). An intermediate stage produced pyroxylin, a somewhat similar substance, highly inflammable but not so explosive as gun-cotton, and it was found that a transparent, viscous liquid could be produced by dissolving pyroxylin in ether and alcohol. The liquid was named "collodion," and it was first used as an impervious coating on wounds.

It is believed that M. le Gray, of Paris, first suggested that collodion might provide a more suitable vehicle than albumen for a process similar to that of Niépce de St. Victor. At first little success was achieved by the many experimenters, probably because an aqueous solution precipitates collodion, and it was therefore difficult to introduce iodides into it. However, certain iodides, particularly the ammonium and cadmium salts, are soluble in spirit, while collodion will accept a minimum of water without precipitating. Archer finally discovered the technique of introducing sufficient iodides into collodion, and was able to evolve his process.

As the process is worked today, the collodion, containing various iodides and tra-

ces of bromides and calcium chloride (the "iodised" collodion) is hand-coated upon glass (usually already prepared with a albumen substrate) and the solvents are allowed to evaporate until the coating set to a gel within a minute or so. In this condition, and before the coating dries, the collodion is no longer liable to precipitate in aqueous solutions, and the plate may be placed in a solution of silver nitrate (the wet-plate sensitising bath) in which the remaining ether and alcohol dissolve out into the bath solution, being replaced by the silver nitrate, which combines with the iodides to form an extremely finely divided precipitate of silver iodide within the film, and various nitrate by-products which also dissolve out into the solution.

The light-sensitive plate must be exposed in the camera and afterwards developed before it has time to dry, because otherwise the iodides break down and the collodion becomes hard and impervious to water. A wet plate is sensitive only to the extreme blue and ultra-violet of the spectrum, so that the process may be worked in bright yellow safelight illumination. It has a speed of the order of bromide paper, therefore arc lamps are used for lighting the subject, because of their high intensity and considerable blue content.

### Development

Archer used gallic acid as his developer but nowadays ferrous sulphate is employed. The plate is held in the hand and a small quantity of the developer is poured smoothly across it, being kept moving by rhythmic tilting. The ferrous sulphate combines with the small amount of silver nitrate on the plate and breaks down to ferric sulphate, reducing metallic silver which is precipitated. The silver precipitate adheres only to those portions of the coating that were affected by light, the freed nitrate radicle forming ferric nitrate which remains in solution. Thus the development is physical, and analogous to some modern physical development techniques adopted for processing miniature films, a fine-grained metallic silver image being deposited upon the surface of the collodion in the situation of the latent image, and the silver iodide within it being apparently unchanged except for the obscure reaction which must have taken place as the result of light action.

Archer first used "hypo," which had been proposed by Herschel, for fixing his negatives, but a cyanide is used today because silver iodide is much more soluble

n it. Except for the inherent faults of total "colour blindness," the quality of the wet plate image is superb, and if the process is used for such purposes as lantern-slide making—where the first negative can be made on a colour-sensitive dry plate—the results cannot be bettered by any other process. Numerous intensifying, reducing and toning techniques can be employed and, because the image is on the surface of the coating, the processing is very rapid.

For photo-engraving purposes advantage is taken of the extremely great degree of

intensification that can be obtained, resulting in complete transparency of the clear areas and very high density in the dense areas, thus producing the stencil-like images that are necessary for that purpose. However, any degree of softness can be achieved and, by the collodion emulsion process—a later development—colour separation is practicable. Even within the past year Johnson's of Hendon, Ltd., have produced a new collodion emulsion for photo-reproduction colour-separation work—evidence that the collodion technique is still very much alive.

## "H. & D." AND THE FOUNDATION OF SCIENTIFIC PHOTOGRAPHY

By D. W. F. Hardie, Ph.D.

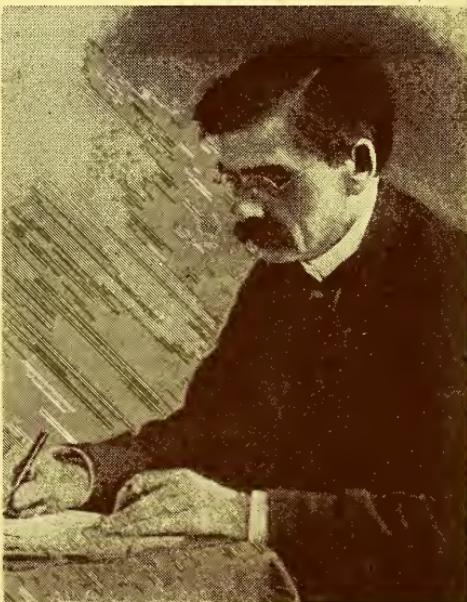
BEHIND the initials "H. & D." and their coupling ampersand, familiar to generations of photographers, lies the story of one of the most interesting research partnerships in the story of applied science—the collaboration of Ferdinand Hurter and Vero Charles Driffield. The partnership, carried on for more than two decades in the Lancashire chemical town of Widnes, laid the foundations of modern scientific photography.

In the early 1870's photography had advanced a long way from its co-founding by Daguerre and Fox Talbot in 1839. For a quarter of a century Scott Archer's wet collodion plate had held the field but, in 1871, Maddox had introduced the dry gelatin plate, and with it something like chaos into the practice of the art. The collodion plate, despite its disadvantages in other respects, had had the important characteristic of comparatively constant speed. The gelatin plate lacked entirely at quality, and made photography even more a matter of judgment and rule-of-thumb than it had been hitherto. The time had come for a scientific investigation of the fundamental chemical and physical principles of the art of light.

### Ferdinand Hurter

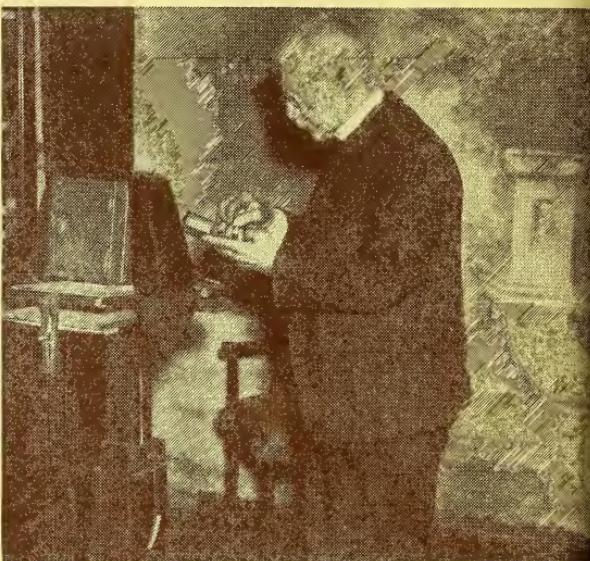
Ferdinand Hurter, the son of a Swiss bookbinder, was born on March 15, 1844, in the *Haus zum Zirkel*, in the Neustadt Schaffhausen. His ancestors, who may be traced as far back as 1510, were men of skill and piety. Surgeons, locksmiths, locksmiths, drawing masters, clockmakers and pastors bore the name; the whole team of Swiss tradition, industriousness

and skill flowed through their generations. When Ferdinand Hurter was two years old his father, Tobias the bookbinder, died, leaving his widow in straitened circumstances to bring up her family of two. The free school system of Switzerland made it possible for Hurter to receive an excellent early education.



Dr. Ferdinand Hurter  
Photograph by V. C. Driffield, 1897

At the gymnasium in Schaffhausen, Hurter made his first acquaintance with chemistry, and displayed more than usual



**Vero Charles Driffield**—a self-portrait. Right: Driffield's pupil (Mr. G. Brockbank) in his studio, calculating an exposure with the aid of the actinograph once used by Driffield.

ability in mathematics. At sixteen he was apprenticed to a silk firm in Zurich, where he also continued his chemical studies, so impressing Städeler, the professor there, that the latter advised David Hurter to allow his step-son to proceed to Heidelberg to work under R. W. Bunsen. In September 1865 Hurter entered what was then the most famous research laboratory in Europe. On June 16 of the following year he was admitted to the degree of doctor of philosophy with the highest honours. It seems probable that it was in Bunsen's laboratory at Heidelberg that Hurter first studied the physics of light and learned the technique of photometry, thus unwittingly preparing himself for his photographic researches. Refusing the offer of a minor professorship in his native land, Hurter set off to seek an industrial career in England, then the dominant manufacturing country in the world. After some weeks of job-hunting he was engaged on a month's probation as a chemist with the Widnes chemical firm of Gaskell, Deacon & Co. In due course the appointment was confirmed, and soon Hurter became chief chemist.

#### The Doctor and Mr. Driffield

Hurter had been working in Widnes for about four years when Vero Charles Driffield became an engineer at Gaskell-

Deacon Works. Driffield, who was a descendant of the famous "Turnip" Towne-  
hend, received part of his education at Southport, where he became apprentice to a fashionable photographer and learned all there was then to know about the practice of the art. Not satisfied with the prospect of spending his days photographing the visitors to a seaside resort, Driffield turned to the study of engineering, remaining, however, a keen amateur photographer.

A common interest in music brought about a friendship between the new engineer and the chief chemist at Gaskell-Deacon Works. In 1876 Driffield "induced" D. Hurter to take up photography as a recreation." But by then Driffield knew his friend and judged rightly that "to a mind accustomed like his to methods of scientific precision" it would be "intolerable to practice an art which . . . was so entirely governed by rule-of-thumb, and of which the fundamental principles were so little understood." So the investigation began. In season and out of season, whenever they had respite from the demands of their professional calling, which in the case of Hurter were particularly heavy, they experimented, theorised, and experimented again. For two decades the subject was never far from their thoughts; Hurter's notebooks steadily grew in number and

riffield's scraps of paper (many of which we unfortunately been lost) were ribbled over with the results of thousands experiments. On holiday, listening to a Scots sermon on "being nigh to the kingdom of God," Hurter's mind wandered with suggestive appropriateness the development of "an analytical expression to sift what is due to development latent image from that due to fog." Throughout the collaboration relations of the most dignified mutual respect prevailed between the two friends, Hurter referring invariably to "Mr. Driffield," and Driffeld always speaking of his collaborator "the Doctor."

#### Wide Range of Investigation

The range of investigation of Hurter and Driffeld was comprehensive. They concerned themselves with the physical chemistry of exposure, determining the relationship between exposure (light intensity  $\times$  time) and the density of silver in the developed image; the effect of the lens was also studied, and finally the process of development.

A primary problem confronting the experimenters was that of measuring the intensity of diffuse daylight. No instrument existed for that purpose. In the course of his professional work connected with the manufacture of sulphuric acid Hurter had occasion to examine the spectrum of nitrogen dioxide, a yellow-brown gas. It occurred to him that the light absorbed by that coloured gas, since it did not perform molecular work in effecting chemical change, must bring about a rise in temperature, and hence, under suitable conditions, would cause expansion of the gas. That was the germinal notion of the actinometer, for which Hurter applied for a patent on April 23, 1881. The instrument was essentially a differential thermometer, one of its air-filled bulbs being of clear and the other of ruby glass. On exposure to light the air in the red bulb expanded to a relatively greater extent than that in the clear one, and the difference in pressure was indicated by the levels of coloured liquid in a U-tube.

During the year 1885-86 the collaborators measured with the actinometer, fitted with an automatic recorder, the variations in the intensity of daylight. They found that the trace on the clockwork drum described a rough sine curve. Relating that observation to the sine of the altitude of the sun, they discovered that, apart from

conditions of dense cloud, fog or rain, the diffuse daylight at any particular hour was seldom less than 25 per cent. of the possible maximum. Since, in practice, exposures could be varied in the ratio of about 1 to 2 without unsatisfactory results, the actinometer was too sensitive an instrument for the purpose of the ordinary photographer. Hurter and Driffeld decided, therefore, to make a simple means of putting at the disposal of the practising photographer the results of their investigations on the variation of daylight intensity, lens effects, and the characteristics of the gelatin plate. On April 14, 1888, they filed a joint patent for their actinograph, a machine of the automatic calculator type by which, at any given latitude for which it was calibrated, the maximum exposure at any hour of the year was given, and thence the time of exposure for plates of different speeds with various lenses. Hurter said of the actinograph that it "will be a truly scientific substitute for actinometers, so long as the earth does not deviate from her time-honoured journey round the sun."

#### Characteristic Exposure Curves

By mechanically exposing strips of plate to light of known intensity and measuring the silver densities of the developed strips by means of a special photometer, Hurter and Driffeld found that every plate had a characteristic exposure curve relating those



Mr. G. Brockbank at work alongside the sink once used by Driffeld.

factors, and also that the ratio of the silver densities, resulting from different exposures, could not be altered by any modifications in procedure during development. The exposure-density curve was of the long "S" type, the straight middle portion of which represented the region of correct exposure, the curved beginning and end portions indicating the regions of under- and over-exposure respectively. They defined the "inertia" of a plate as the exposure marking the beginning of the correct exposure region, and the "speed" of the plate as the inverse of the inertia, which, when the inertia was measured under specified conditions, was the "H. & D. number" for that plate.

Hurter and Drifford's discovery of the fixity of the density ratios met with the scepticism of the photographers of the time, who cherished the belief that errors in exposure could be corrected at the development stage. For a number of years after its publication Hurter and Drifford's work was little understood: time had to pass before the provinces of art and science in photography were clearly resolved, and recognition given to the truth of Drifford's dictum—"The artist will always produce the best *picture*, the scientist will produce the best *negative*."

### The Tragedy of Ferdinand Hurter

Hurter, during the long years when he and his collaborator were laying the foundations of scientific photographic technique, had, in the field of the alkali industry, become a chemist of European reputation. In 1890 he was appointed chief chemist to the United Alkali Co., the first great combine in the history of the chemical industry. His first duty in that appointment was the founding of the Central Laboratory, now the Widnes Laboratory of Imperial Chemical Industries, Ltd., then the only industrial research institution of its kind in this country. Over-work and ill-health made their inroads on Hurter's constitution and, after a short business visit to the United States, he died suddenly at his home in Liverpool on March 5, 1898. Shortly before his death he and Drifford were jointly awarded the Progress Medal of the Royal Photographic Society in recognition of their contributions to photographic science. It was the tragedy of Ferdinand Hurter that, professionally, his great scientific abilities had to be given to the sterile bolstering and defence of the dying Leblanc system. A kinder fate and

a longer life might have permitted him to devote his energies to the modern developments in the heavy chemical industry in which, with his electrolytic chlorate cell, he had shown himself in his last years to be a potential pioneer.

Drifford survived his friend and collaborator by seventeen years. Their graves lie within a short distance of one another in Farnworth, Widnes, churchyard. After Drifford died, the instruments "H. & D." had used, and the notebooks and papers in which they had recorded their work were given into the custody of the Royal Photographic Society.

### A Pupil of Drifford

Drifford, like Hurter, had the gift of exposition, and he had infinite patience as a teacher. Aspiring young Widnes photographers brought their negatives to him for criticism and advice. Recently the writer, while collecting material for a history of the Widnes chemical industry, was introduced to an old gentleman who had been one of Drifford's pupils. In a back room studio, complete with the painted drop-cloths and draped curtains of Victorian days, where he still practises the art he learned from the master, the aged pupil recalled across the years the slightly built man with the trim beard, frank grey eyes and clear, decisive voice who had shown him the faults of his early negative (Drifford had little interest in prints!) and denounced the dark-room manipulator who vainly hoped by craft to repair their errors in exposure. The pupil had recently passed Drifford's former home, where reconstructions had been in progress. Drifford's dark-room had been in existence till then, but its fittings were being dismantled by the sacrilegious hands of a plumber. "My dark-room is in the yard; I'll show you it," said the old man. In the flagged back-court was a wooden lean-to shed. He opened the door and switched on the orange-red lamp; visible by its dim light in the centre of a bench littered with the bottles and dishes of the photographer's trade, was a wide, shallow lead box. "Mr Drifford's sink," said the pupil reverently. "I saved it."

**A Daguerreotype of the Moon.** — Photography was an absorbing feature of the "newer" sciences represented in the Great Exhibition of 1851, and it was a daguerreotype of the moon that inspired Warren de la Rue to turn his attention to lunar photography.

# CAMERA REPAIRS AT REASONABLE CHARGES

By Leslie G. Sandys, A.R.P.S., F.R.S.A.

GREAT deal of dissatisfaction has been expressed by chemists and other photographic dealers, as well as by professional and amateur photographers, the poor service, bad workmanship and exorbitant charges that have been prevalent among trade repairers of photographic equipment since the war. There is, it is true, a number of first-class firms that turn out only the highest quality work, carry out repairs in reasonable time, charge genuinely competitive prices, but the author's remarks do not apply to such reputable establishments. On the contrary, the purpose of the present article is to direct more business to the good repairers not only because they deserve to secure it, but so that retailers who take in repair work may feel confident that any orders they accept will be fairly dealt with, and that they will not cause eventually to make flimsy excuses to customers.

Before discussing how the reputable firms may be identified, it may be well to reiterate the warning that there are people at present practising as repairers of cameras and other photographic equipment who have no right to be doing so, judged either upon their capabilities or upon the results—or the lack of results—of their efforts. Some of those operators, no doubt, have come back to "civvy street" from the services after having picked up a smattering of knowledge on the repair and maintenance of instruments in general (at which they may very well have been personally capable and efficient) and wrongly expected to be able to apply their knowledge to the repair, without prior training, of cameras and delicate shutter mechanisms. The outcome of such misplaced confidence has been in some instances disastrous. The author recalls seeing a naval Air Force instrument repairer—he had been a civilian watchmaker before the war—take a Compur shutter to pieces with the object of cleaning it. It took him a month to get it together again—and even then he was none too sure of its correct functioning.

## How to Find a Reliable Repairer

It is not surprising, then, that one is continually hearing about—and receiving reports from—people who have had unfortunate experiences with apparently un-

scrupulous repairers, or that, when readers of a photographic journal are offered the name and address of a reliable repairer (and one who would, at the same time, provide a list of charges for various jobs in connection with different types of cameras, shutters, and so on) the result is a stream of letters, enclosing stamped envelopes for reply, from photographic dealers all over the country who had at one time or another been "let down" by a repairer. When that offer was made there was no means of finding a good repair house except by personal trial or recommendation. Recently, however, matters have taken a decided turn for the better.

## Repairers' Group

The Photographic Dealers' Association, which has for some time realised the seriousness of the position, and the harm which unsatisfactory repairers have been doing to the trade in general, has co-operated with a few "top flight" repair firms in forming "P.A.R.G.", the Photographic Apparatus Repairers' Group. A committee was formed in 1950 to investigate the claims of repairers to become members, and the January 1951 issue of the "P.D.A. Journal" contains a list of repairers who are at present approved. The final total of members of the group is not likely to be large, for all applicants for membership are "vetted" with considerable care, in order that dealers may feel perfectly easy in mind when dispatching apparatus to any member whose name appears in the list. A badge of membership has been adopted, and as will be seen from the reproduction of it on this page it includes the words "P.D.A. Approved." Every P.A.R.G. member has to prove his experience of the trade, must describe in detail the type of work he undertakes or in which he specialises, and must demonstrate the quality of his work to the satisfaction of at least three photographic dealers. When an applicant for P.A.R.G. membership sends in his application form, his references are followed up carefully, and if the reports prove to be unsatisfactory then membership is refused. Since the group was, as already noted, established under the sponsorship of the P.D.A., chemists will realise that it is in



their own interests to entrust repairs only to group members. By doing so they can be assured that they are not doing harm to any good repairer, for it can be confidently predicted that all good repairers will become members, and when they do they are likely to receive even more work.

When once its complement of members has been enrolled, the organisation will de-

pend for its success upon the co-operation of dealers, and for that reason will welcome criticisms and suggestions of any kind. Any serious complaints, if sent to the P.D.A. with full supporting evidence, whether they refer to the standard of work, the charges made, or the service given, will be investigated by the Committee, and appropriate action taken.

## HALF A CENTURY OF HOBBY AND TRADE

By A. Finnis Attwell, M.P.S.

MY lifelong love of photography as a hobby and a trade started during my apprenticeship (at a pharmacy at Epsom, Surrey) where the senior apprentice led me to pursue photography with zest. One day I said to the governor, "Why not start a photographic department, sir?" adding, "I know all about it." Surprisingly, permission was granted and the customers and their developing and printing work were left to me. About the time my apprenticeship ended (1906), photography was enjoying a dramatic flood of vitality and inventive achievement. Ciné cameras and projectors were on sale, panchromatic plates had just reached the market but not the dealer's shop, and I well remember the sudden advance in colour photography.

In 1913, when I was twenty-five, I bought a pharmacy in Christchurch Road, Bournemouth. I borrowed all the money to do that and the business proved sound and genuine. War broke out, however, a year later and photography was banned. I had had only time to lay the foundations of the photographic side therefore, but when the war was over the opportunity was still there. Keen, serious amateur myself, I saw how lamentably fellow pharmacists neglected this fine side of the business. I doubt if any within a mile of me had £30 worth of photographic stock.

### Plans Passed On

For the benefit of pharmacists who wish to develop the photographic side I can say that, if I had that aim today, I should adopt again almost the same methods as I used from 1913 on. They are: practise the hobby oneself (including miniature ciné and colour); join a camera club and exhibit; join the Photographic Dealers' Association; follow the photographic Press; keep ahead of the best customers in knowledge, and train the staff to do this; display one's own pictures occasionally. Keep and show good stock cameras; exchange

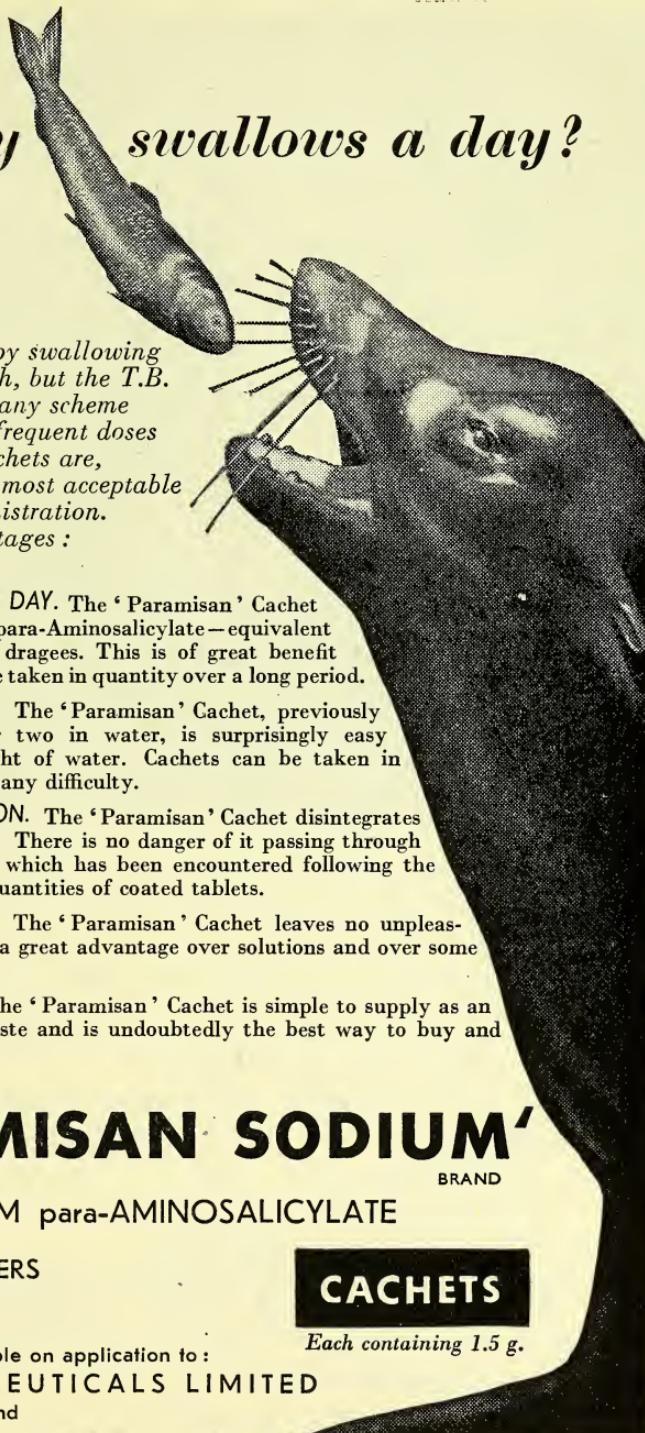
and buy good second-hand cameras (the key to good apparatus trade) and study their market and prices; overstock variety of accessories, regarding interesting stock as the finest form of advertising (few non-sales will be a cheap advertisement); stock packed chemicals and solutions and pan and orthoplates; stock some ciné goods, and work up progressively stocking better ciné cameras and projectors and to installing a projection room. He youngsters, advise them to process the work; talk photography; avoid bores and time-wasters; avoid sloppy demonstration of apparatus—have an order of customers speak clearly and look at customers as you indicate each point; discuss prints with "developing and printing" customers; suggest selective enlargements.

Good trade can be done all the year round. Of my photographic turnover, 75 per cent. came from the six winter months, thanks mainly to good apparatus sales. Pharmacy was not neglected.

It is my belief that the Photographic Dealers' Association has been invaluable to us pharmacists. Without its work, and its splendid secretary, Mr. E. J. Andrew, I am quite certain that there would be quite six times as many dealing points there are today. That should be remembered when one is apt to complain of one or two new accounts opening near by. I strongly urge every pharmacist doing photographic business to join the Photographic Dealers' Association if not yet a member, and to make use of the Association's services. My contact with the Photographic Dealers' Association has been most happy and helpful one to me since first joining in 1926, when it numbered only 350 members. I greatly enjoyed my business life, blessed with interesting people throughout, including staff, customers, travellers and all associated with my adventure in the sweet meadows of private enterprise and on the shifting sands of the profit-motive.

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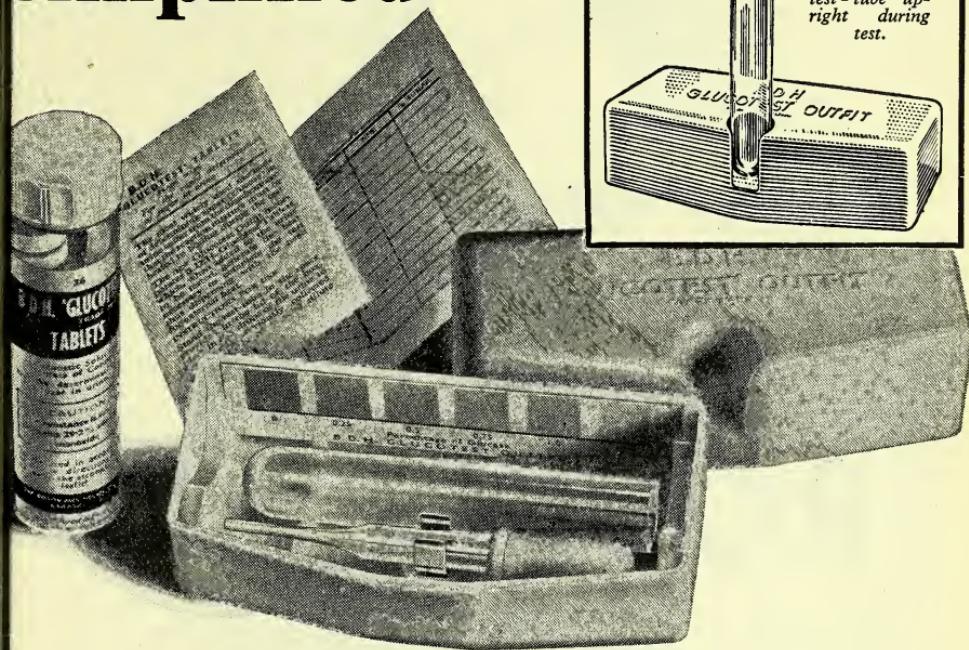
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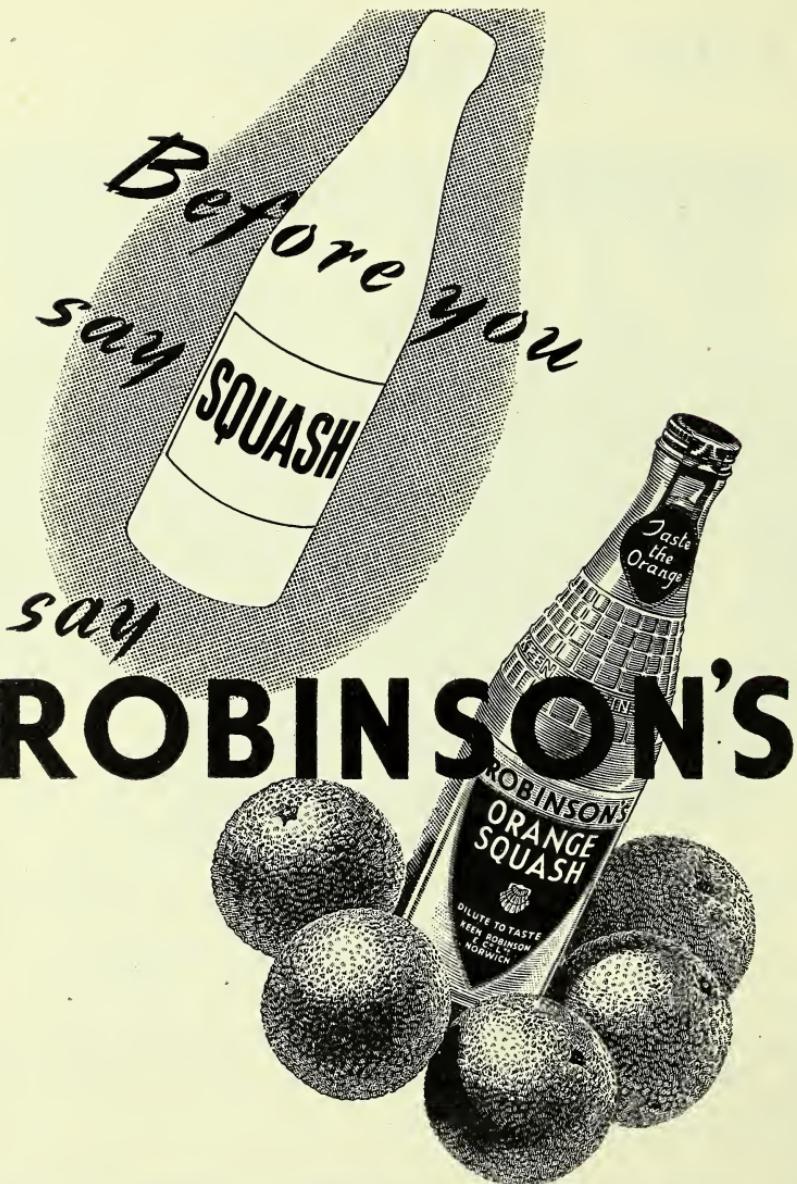
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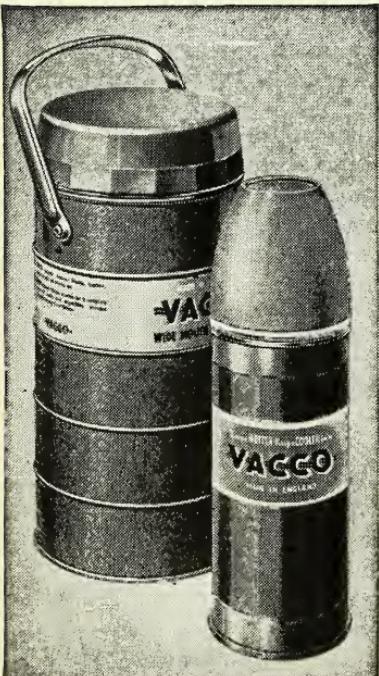
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The Model S.C. flask is of 1 pint capacity and of pleasing design with a quality finish in durable enamel.

The VACCO jar Model J. 101 has a 3½" wide mouth and a capacity of more than 2 pints. The canister is stove enamelled in green, blue or red, with an attractive crackle finish, and is fitted with a sturdy polished aluminium handle.

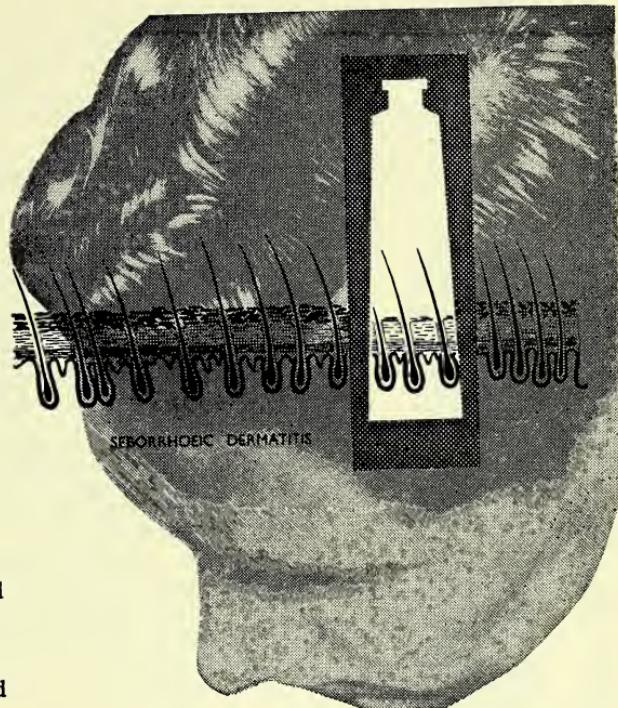
**VACCO**

MADE IN ENGLAND

Enquiries to:

VACCO SALES LTD., Grosvenor Gardens  
House, Grosvenor Gardens, London, S.W.1.

**In the  
care  
and  
hygiene  
of the  
scalp**



Pragmatar'— the improved

tar-sulphur-salicylic acid

ointment — is now being

regularly and widely prescribed

for the general care and hygiene of

the seborrhoeic scalp. It can be readily

washed out of the hair or it may be allowed to remain as a pleasant dressing.

Its wide margin of safety makes it especially suitable for children as well as adults.



*An aid to the treatment of acne.* Dandruff frequently prolongs and intensifies acne infections, rendering them less amenable to treatment. In such cases, the application of 'Pragmatar' to the infected scalp is an invaluable preliminary to the treatment of the acne itself.

**Pragmatar**

Issued in 1-oz. collapsible tubes. Trade price 27/- per dozen. Purchase Tax 9/- per dozen. Retail price 3/9 each, inc. Tax.  
Also available in 2½ lb. jars

*Cetyl-alcohol-coal-tar distillate 4%; sulphur 3%; salicylic acid 3%; in a washable base*

**MENLEY & JAMES, LTD., 123 COLDHARBOUR LANE, LONDON, S.E.5**  
for Smith Kline & French International Co., owner of the trade mark 'Pragmatar'

PT120



*Wanted for the Incubator and the Greenhouse*



*Certor*

**Best-Quality THERMOMETERS**

Now is the time when the poultry-keeper and the nurseryman want a good reliable thermometer. Make sure you give them Certor.

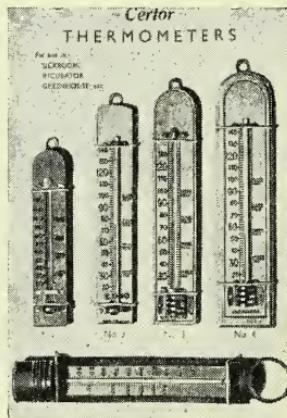
- ★ In four different sizes.
- ★ Packed in individual buff printed cartons.
- ★ Also available on printed display card showing one of each size, with bath thermometer.

	Doz.
No. 1	21/-
No. 2	27/-
No. 3	30/-
No. 4	32/-

Bath Thermometer (in Jap case)	40/-
Each	
Display Card (one of each size)	12/6



Buff printed cartons for each size



*Make Certain of Quality with Certor*

*Prompt attention given to urgent post orders.*

*All goods carriage paid in free packages*

**MACDONALD & SON LTD.**

HOPE MILLS, POLLARD STREET, MANCHESTER, 4

Ardwick 1561-2

**FOR HOME & EXPORT**

**META AMINO PHENOL 99/100%**

**PAS ACID**

**PAS SODIUM**

**PAS CALCIUM**

**In Bulk and Tablet forms**

**SULPHA DRUGS**

**EPHEDRINE HYDROCHLORIDE**

**SULPHONE D.D.S.**

**MERCURY SALTS**

**PEPSIN**

**HYDRO QUINONE**

★ We can  
supply these and  
many other  
drugs  
advantageously.



**M.W.HARDY  
AND COMPANY  
(OVERSEAS) LTD**

**PINNERS HALL · GT WINCHESTER ST · LONDON · E.C.2**

TELEPHONE: LONDON WALL 7131

**The public will demand**

**COOPER'S**

**Make sure you have**

**COOPER'S**

When flies arrive, *up* will go the demand for these nationally advertised, outstandingly efficient fly-killers. Don't be caught short of stock—order *now*, collect a *bonus* and make sure of satisfying the profitable demand for these exceptionally effective products.



**BONUS OFFER**

On orders placed before MARCH 31st, for delivery by the end of April or earlier, a Special Bonus Discount will be allowed on the following parcels of Cooper's Household Aerosol and/or Flyspray, IN ADDITION TO NORMAL TRADE AND CASH DISCOUNTS:—

*Parcel "A" (Aerosols)*

24 x small @ 6/9 each

12 x large @ 12/6 "

Extra Bonus Discount 5%

*Parcel "B" (Flyspray)*

36 x 10-oz. bottles @ 2/9 each

12 x 20-oz. tins @ 4/3 each

Extra Bonus Discount 2½%

This year, supplies of Aerosols will be much larger but still limited. Priority will therefore be given to orders placed before March 31st. Please order without delay.

**COOPER'S**

**HOUSEHOLD AEROSOL & FLYSPRAY**

COOPER, McDougall & Robertson, LTD., BERKHAMSTED, HERTS

# Famous the world over

ALOIN      ATROPINE      BISMUTH SALTS  
CANTHARIDIN      CAPSICIN      CHLORAL HYDRATE  
CHLOROFORM      CODEINE      DIACETYLMORPHINE  
EPHEDRINE      ERGOTIN      ETHYLMORPHINE  
GINGERIN      HOMATROPINE      HYOSCYAMINE  
MORPHINE      PAPAVERINE      PHYSOSTIGMINE  
PILOCARPINE      SANTONIN      STRYCHNINE



BLANDFIELD CHEMICAL WORKS · EDINBURGH

Manufactured in Edinburgh by

**T. & H. SMITH LTD**

at Blandfield Chemical Works



# Seagull

TRANSPARENT PHOTO FIXERS



can now be supplied through your usual wholesaler. Order a supply of this profitable line today and see how quickly they sell when displayed. Sold in attractive boxes containing 100 corners.

Full wholesale discount

Send for sample box and trade terms

**CUMBERLAND PAPER CO. LTD.**

London Office and Showrooms:  
Derbyshire House, Belgrave St., King's Cross,  
London, W.C. Telephone: Terminus 9656/7  
Works: Cleator Mill, Cleator, Cumberland

**D & P**  
**COLOURING**  
**REPAIRS**

Developing and Printing

Specialists in  
Camera Repairs

[ P. D. A. Prices ]

Collection and delivery within ten mile radius of Manchester  
ENQUIRIES INVITED . . . please furnish two Trade references

**PHOTOGRAPHIC SERVICES (MANCHESTER) LTD.**

WHOLESALE PHOTOFINISHERS

143 NEW PARK ROAD . SALFORD, 5 . Tel.: TRA 1760

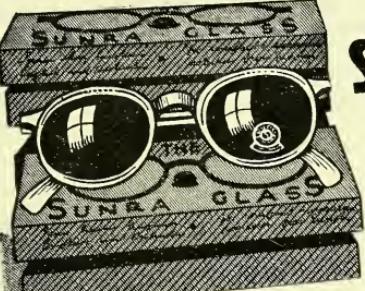
# Buying Sunglasses?

THIS 'COLD WAR' is an OLD 'WAR'....

A BATTLE AGAINST RISING PRICES!

Stockpiling in America has resulted in an acute shortage of the raw materials necessary for the manufacture of Sunglasses; but although prices may tend to harden later in the Season, we are in the fortunate position of being able to continue last years' models and also to offer new styles with guaranteed 'Sales Appeal'.

Please ask your Wholesaler to show you our 1951 range; models retailing from as low as 1s. 0d. per pair.  
... Including SUNRA GLASS.



## SUNRA GLASS

AT LAST!

A moderately priced sunglasses with the "expensive" look

RETAILS AT

**3s. 6d.**

(in two colour box)

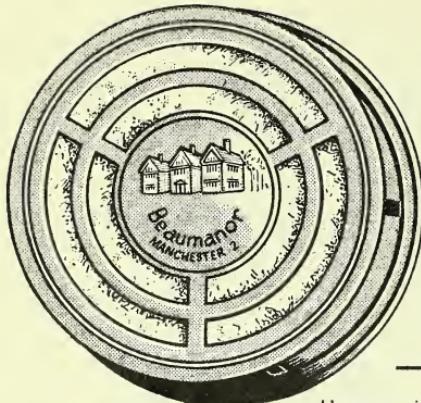
Scientifically styled for men and women. Comfortable saddle bridge in two popular fittings.

Available in attractive colours: opaque, transparent and pearl, from your usual wholesaler. There are twelve other models of sunspecs from which to choose which retail from 1s. 0d.

370-372 STATION ROAD, FOREST GATE,  
LONDON, E.1. — ENGLAND

Telephones: MARlond 1766 & 1550

LAST SEASONS' SUNGLASS SENSATION!  
VALUE = SALES! SALES = PROFITS!



## "Beaumanor" Air Purifying Unit

—designed for HOME, OFFICE and WORKSHOP

Unostentatious—with a mild perfume, yet a powerful moth repellent and deodorizer.

### Hygienic Germicidal Deodorant

★ Parachlorbenzene base  
—no naphtha or camphor content.

BEAUMANOR HYGIENIC PRODUCTS LTD.

F.H.A./C. & D.

Fitted in Bathrooms, Toilets, Wardrobes and Workrooms  
it ensures a germ-free atmosphere... IN IVORY and GREEN PACKS

Attractive design. Individually boxed. Refills  
(2 tablets) boxed separately.

HOME TRADE ONLY

I POLICE STREET

MANCHESTER, 2

(Tel.: BLA 2467)

3/3 RETAIL

Liberal  
Trade Terms

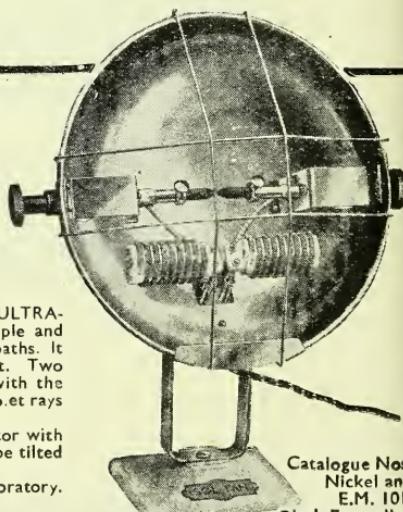
# SOL-TAN

...switch on  
to sunshine!

The CARBON ARC "SOL-TAN" ULTRA-VIOLET RAY SUN LAMP is the most simple and efficient apparatus invented for inexpensive home sunbaths. It is easily used and will operate on the ordinary lighting circuit. Two Inf.-a-Red units of the plug-in type which are incorporated with the reflector emit valuable curative rays, and the output of ultra-violet rays from the arc form the true combination of beneficial sunlight. The apparatus has a beautifully finished highly polished reflector with cellulose enamelled base. A thumb screw allows the lamp to be tilted to any desired angle.

The "SOL-TAN" has been tested by the National Physical Laboratory.  
Supplied without Doctor's Certificate.

Our new fully illustrated Catalogue gladly sent on request.  
"Sol-Tan" Marketed for Home and Export by



Catalogue Nos.  
Nickel and  
E.M. 101.

Black Enamelled

Finish £5 15s. Od. E.M. 104, Cream and  
Chrome Finish £6 10s. Od. Both  
excluding Tax.

THE LONDON COMMERCIAL ELECTRICAL STORES LTD.  
20-23 CURSITOR STREET, E.C.4. • CHANCERY 6488/9

**GREATER BUSINESS IN YOUR HANDS**

Stock and display  
**INNOXA**  
 Barrier Creams  
 and link with this  
 advertising  
 seen by over  
 8,000,000  
 families

# RADIO TIMES

*The Nation's Shop Window*

**PROTECT YOUR HANDS FOR 1/ A DAY!**  
 with the NEW invisible gloves!

Test the wonderful "invisible glove" protection for the hands which you have never so much gloved in the papers. When applied to the skin the Innoxa Barrier Cream is absorbed into the skin to form a protective film adhering to the skin that you can neither see nor feel it. Yet it is impossible for water, grease, detergents or other household chemicals to penetrate the invisible glove. It is a great day-saver when a housewife has a busy day ahead, followed by Innoxa Barrier Cream 1/1. Your hands are then safe against the harsh, driest household—wet or dry. When you are through a quick run and off glide the "invisible gloves" revealing unblemished, well cared-for hands.

**100% PROTECTION AGAINST**  
 HOUSEWORK HANDS  
 WASHING HANDS  
 SPRING-CLEANING  
 HANDS  
 CHARMING HANDS  
 GARDENING HANDS  
 GARAGE HANDS  
 WASHING UP HANDS

**INNOXA 1/1 FOR DRY WORK**  
 Dust, grease, paint, oil and all sorts of  
 household chemicals are easily kept  
 from your hands under the right  
 conditions.

**INNOXA 7/1 FOR WET WORK**

Water, detergents, paint, oil, grease  
 against "wet gloves" are though...  
 may be hours at the sink or tub.

**3/1<sup>d</sup> A LARGE TUBE**

**BRITAIN LEADS**  
 in the world with these new Innoxa  
 Scientific Barrier Creams. They  
 are the first to be made in Britain  
 and are the first to be made in  
 Britain to give the maximum  
 measure of protection. To avoid  
 the use of oil, which is the cause  
 of dirtiness, the oil was INNOXA  
 Barrier Cream.

**Use Innoxa BARRIER CREAMS**

From your good chemist, druggist, supermarket and  
 hardware stores. There is an Innoxa outlet in your area. In case  
 of difficulty for an address, information will be given to—  
 INNOXA LABORATORIES, LTD, ROSE STREET, W.1

AND NEVER AGAIN LET HOUSEWORK  
 SPOIL OR STAIN YOUR HANDS! •

Through advertising in the **RADIO TIMES** Innoxa are getting their Barrier Cream message straight to the buying centre of a great proportion of the British public—into the homes of the 8,000,000 families who buy this publication every week. And not only is it bought regularly by these millions of people—it is read by every member of the family every day of the week. **RADIO TIMES** is a terrific publicity medium—especially for a family product like this. Don't underestimate the demand this advertising will create. Stock up well with Innoxa Barrier Creams.



Stock and display goods advertised in the

# RADIO TIMES

*Member of the Audit Bureau of Circulations*

# BIRLEY'S ANTACID POWDER

## NEW PRICES

	WHOLESALE	P. TAX	RETAIL
SMALL SIZE	13/3 per doz.	plus 4/6	1/10 incl p.t.
MEDIUM SIZE	30/6 , ,	plus 10/6	4/3 , ,
LARGE (FAMILY) SIZE — Prices remain unchanged			

NEW PRICES EFFECTIVE FROM MARCH 12th 1951

BIRLEY'S ANTACID LTD., 68 Fore St., St. Marychurch, Torquay

## CHEMISTS!

Let your customers know that

# MOTHOLIN

kills both Moth and Grub

Motholin is unrivalled for the actual destruction of moth and grub. It kills all moth and grub.

- MOTHOLIN has been proved by entomological tests to kill definitely both moth and its grub.
- MOTHOLIN is acknowledged as the most modern and effective preparation against the ravages of the moth pest.
- MOTHOLIN does not harm or stain the most delicate fabrics.
- MOTHOLIN has an ever increasing demand created by National Advertising.
- MOTHOLIN retails at 2/11d. per bottle, and yields a clear 50% profit on cost.

NATIONALLY ADVERTISED

- STOCK UP TO-DAY

All enquiries to Sole Distributors to the Chemist trade in England and Wales

**SANGERS LIMITED**  
258 EUSTON ROAD, LONDON, N.W.1

Manufactured by : Metropolitan Chemicals (London) Limited  
71 The Broadway, Cricklewood, London, N.W.2 Phone : GLAdstone 2765



## Hurrah Horatio!

Although Luke Howard, the founder of Howards was almost certainly too conscientious a Quaker to approve of anything to do with war, there is some evidence that his workpeople celebrated in an appropriate manner Nelson's victory at Trafalgar. In one of the company's boxes of records, labelled 1805, has been discovered a bunch of home-made squibs. This was probably the one and only time that Howards ventured into the firework industry, for even in 1805 they were very well occupied in developing the already established manufacture of such chemicals as Acetates, Bismuth Salts, Citrates and Ether.

Then, Howards were, as they are now, leaders in the manufacture and refinement of pharmaceutical chemicals.

# Safe as HOWARDS

Bromides, Citrates

Iodides, Iron Salts

Bismuth Salts

Sodium Bicarbonate



Lactates, Aspirin

Salicylates, Ethers

Quinine Salts

Tablets-etc.-etc.

HOWARDS & SONS LTD · ILFORD near LONDON



# Jarvie for Quinine

ESTABLISHED 1892

**H. JARVIE & CO; LTD**

Scotia Chemical Works

COATBRIDGE · SCOTLAND

EXPORT ENQUIRIES TO H. JARVIE &amp; CO. LTD. WIGMORE HOUSE 10 DUKE STREET · LONDON, W.

## RENTOKIL TIMBER FLUID FOR WOODWORM NATIONALLY ADVERTISED

Woodworms are more active than ever so please hold adequate stocks of RENTOKIL TIMBER FLUID, the tried and proved woodworm destroyer, to meet the increasing demand.

**GENEROUS TRADE TERMS**

**RENTOKIL LTD.**  
(Dept. C.D.), Fetcham,  
Leatherhead, Surrey

Tel.: Leatherhead 4021/2



Packed in attractive  
Display Cartons —  
each carton containing  
8 oz. bottle of  
Rentokil Timber Fluid  
and Injector for forcing  
the fluid into the  
worm holes.

# Spontex SPONGES

## INCREASE IN PRICES

The general increase in costs, both of raw materials and labour, has compelled us reluctantly to revise prices of Spontex sponges. The following prices apply

from MARCH 12th 1951.

### SPONTEX TOILET AND HOUSEHOLD SPONGES

TYPE	PRICE	P.T.	PRICE inc. P.T.
No. 44 (BATH SIZE)	3/4½d.	9d.	4/1½d.
No. 33 (TOILET SIZE)	2/7½d.	7d.	3/2½d.
BABY SPONGE	2/3d.	6d.	2/9d.
COSMETIC SPONGE	7d.	1½d.	8½d.
DISH MOP	2/3d.	6d.	2/9d.
DISH MOP REFILL	1/3d.	3½d.	1/6½d.
CAR SPONGE <i>Transparent Wrapped</i>	3/9d.	10d.	4/7d.

NOTE SPECIALLY—Prices of Spontex 45H and 28H HOUSEHOLD SPONGES remain UNCHANGED at 3/7d. and 2/5½d. each (inc. P.T.).

*All above prices are subject to usual trade discounts*

PONCEL LIMITED, BROMLEY, KENT

# The most advanced type of first-aid dressing

DEVELOPMENTS in first-aid dressings have been rapid in recent years. The most advanced type, widely used by doctors, hospitals, and first-aid posts in factories, is Dalmas.

Dalmas dressings provide complete protection for cuts, grazes, and slight wounds. Dalmas dressings keep out water, dirt, grease, and acid. They allow free movement, and can even be worn while washing!

Dalmas stretches in every direction, and the edges stick tight, cannot fray or catch in clothes. It lessens risk of infection and promotes safe and easy healing. Skin-coloured, so that it hardly shows, Dalmas is the perfect first-aid dressing for everyone.

Supplied in blue-and-white counter sell-outs, containing two dozen 1/- boxes; price 8/6 a dozen with special quantity-discounts.

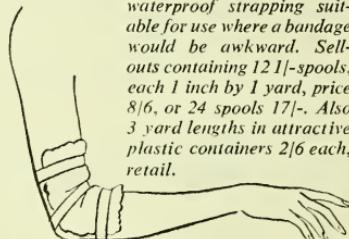


**DALMAS LTD.**  
LEICESTER

(Phone: Leicester 65261)

## OTHER DALMAS PRODUCTS YOU WILL WANT TO STOCK:

**Dalmas Strapping.** A waterproof strapping suitable for use where a bandage would be awkward. Sell-outs containing 12 1/-spools, each 1 inch by 1 yard, price 8/6, or 24 spools 17/-. Also 3 yard lengths in attractive plastic containers 2/6 each, retail.



**Dalmas Vaccination Shields.** A new waterproof vaccination dressing, available in two sizes, the smaller being specially for babies and small children. Retail price 1/- for carton of two dressings, or, in the children's size, 1/- for four dressings.



**Dalmas Finger-Tip Dressings.** A new waterproof protection to stick over cracked, cut, or sore finger-tips. Boxes 8/6 per dozen, to retail at 1/- each.

**Dalmas Boil Plasters.** A new waterproof skin-coloured dressing to protect boils. Handy boxes, price 1/- retail.

**London Depot:** 140-142 St. John Street, E.C.1  
(Clerkenwell 3399)  
**Leeds Depot:** 14 Neville Street  
(Leeds 29764)  
**Scottish Agents:**  
Robert Telford, 29 Waterloo Street, Glasgow, C.2  
(Central 2716)

Infants Feeding Bottles -  
Upright & Double-ended

another **W** product

MAKERS OF FINE GLASSWARE SINCE 1828



The double-ended Feeder is supplied spare, or packed in carton with Teat, Valve and Brush, the Upright Feeder, spare only. Our quality and workmanship is unrivalled, having specialised in the production of Feeding Bottles for over 100 years.

**WOOD BROTHERS**

GLASS CO. LTD OF BARNESLEY IN YORKSHIRE

# LLOYD'S ADRENALINE

Now that our productive capacity is 18½ times what it was last July, Pharmacists should have no difficulty in obtaining supplies from their wholesalers at reasonable notice.

And that increase has enabled us to advertise as we have wanted to for months. *The People*, *Sunday Pictorial*, *Empire News*, *Sunday Chronicle*, *Sunday Graphic*, *Daily Herald*, *Daily Mirror*, and *Daily Graphic*, are just a few of the National papers holding regular orders, in addition to all the strongest Provincial newspapers throughout the country.

Make sure you have adequate stocks to meet the demand this advertising will create.

**THE ONLY ADRENALINE CREAM  
PROVED SATISFACTORY IN  
THE CLINICAL RESEARCH  
WHICH ESTABLISHED THIS  
NEW THERAPY**

## CREAM IN PRACTICE

## A TYPICAL PROFESSIONAL LETTER

Dear Sir,

Winchmore Hill,  
London.

The best way in which I can tell you of the importance of this Cream in massage is to give you the details of a typical case of lumbago that I was called to yesterday. The lady had been making a bed when suddenly she could not get up and was afraid to sit or lay down. When I arrived four hours after the attack she was lying in very great pain, afraid to move, she was lying in very great pain, afraid to move, of the infra red lamp. The treatment followed by the application of adrenaline cream. Within half an hour of my arrival, she was sitting up with no acute pain but just a slight ache low in the back and very much wanting to get up and carry on with her work again. What more can I say except that you will always find a jar of adrenaline cream in my case and on my trolley.

Yours sincerely,

(sgd) G. L.

M.Phys.A. L.P.M.E.

Scores of Hospitals and Clinics are using  
Lloyd's Adrenaline Cream

The daily increasing number of Hospitals and Clinics adopting Lloyd's Adrenaline Cream is proof of its high therapeutic value. As one Practitioner says "Cremor Adrenalinæ Lloyd will always be on my trolley".

Sole Manufacturers :

**Howard Lloyd & Co. Ltd.**

ASFORDBY STREET, LEICESTER



The home spray  
in sickness  
and health

For the sickroom, Zoflora can be recommended for the dual purpose of purifying the air and, with its pleasantly refreshing perfume, it is conducive to untroubled sleep.

**A splendid seller in all seasons**, for the home, the hospital and public rooms of every kind.

# Zoflora

*perfumed*

## DISINFECTANT

is a preparation of antiseptic floral oils and synthetics, to be diluted with water for spraying.

**Retail Prices: In bottles, 2/-, 7/- and 13/6.**

Also complete spraying outfits 10/- and 21/-

*Usual Trade Discounts*



TZ10

THORNTON AND ROSS, LTD., • HUDDERSFIELD • ENGLAND

## OPULAR 'POLY-TAINER' . . .



advertised in *Vogue*, *Harpers Bazaar*, and other fashion and beauty periodicals

# the NIVEA Beauty Pack

LOVELY-TO-THE-TOUCH!

A descriptive name, an unusually light-weight, and a good 4-oz. content. 'Poly-tainer' is already well-launched, and the unbreakable, opaque white Polythene jar has pride of place on many a smart dressing table. Glamour packs for Nivea mean new business for you, from the many dressing-table-conscious women who prefer their cream in a jar. Your share of this new trade can be substantial. How are your stocks? 'Poly-tainer' retails at 8s. 4d. per 4-oz. r, trade price 40s. per dozen, plus tax.



**Skin needs NIVEA**

GNT-94

ERTS PHARMACEUTICALS LIMITED • WELWYN GARDEN CITY • HERTS



AN APPROVED METHOD OF  
*Family Planning*

**GYNOMIN**

TRADE MARK

Regular medical and national publicity will bring increasing demands to your pharmacy. Medical literature available to pharmacists on request.

The scientifically balanced, antiseptic and deodorant contraceptive tablet. Spermicidally efficient and recommended extensively by the medical profession.

**SPECIAL QUANTITY DISCOUNTS MEAN EXTRA PROFITS.**

3 doz. tubes at 31/6 per doz. less	5%
6 doz. " " " " " "	7½%
12 doz. " " " " " "	12½%

Retail price 3/6 per tube of 12 tablets.

Order from your wholesaler.



Manufactured by

**COATES & COOPER LTD**

PYRAMID WORKS · WEST DRAYTON · MIDDLESEX

**Florine**

2 PLY  
GLAMAPAK

PETAL-SOFT  
**TISSUE**  
HANKIES



Absorbent Petal Soft, New fold tissues, Improved Folding for Boudoir, Bathroom or for travel use. Conveniently dispensed from specially constructed, attractively printed cartons, designed for immediate single selection of coloured tissues without contamination. Each box contains 100 single sheets 9" x 10" folded 4½" x 5". Obtainable in white only or supplied assorted tints and self colours.

**THE POCKET PACK**

Specially designed Dispenser Carton contains 24 regular sized tissues (12 pairs) white only, folded 2½" x 5" for handbag, school and travel use.

Packed in Display Boxes containing 1 dozen cartons—convenient for distribution, ideal for counter display.

**CARRIES FULL PROFIT MARGIN  
FOR WHOLESALER AND RETAILER**

★ HANKIES also supplied with embossed hem-stitched borders in Cellophane Pack.

**FREEDER BROTHERS PAPER MILLS**  
BRIMSDOWN, ENFIELD, MIDDLESEX

Telephone: Howard 1847 (5 lines).

Telegrams: Sylkocrepe, Enfield, Middlesex.

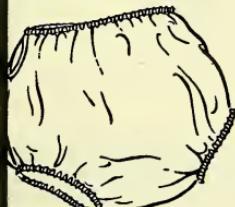
See our Stand No: M105 Stationery Section, B.I.F. Olympia

# They're washable ! They're waterproof ! They wear & wear

THESE laboratory-tested Li-Lo Baby Pants are sure sellers for efficiency and economy. They come in various styles, each individually packed in an attractive pink-and-white printed envelope. The elastic-leg and open-leg styles are made in either superfine white rubber or frosted translucent plastic (medium and large sizes). The "Snappifit", which has an elastic leg with side fastening, is in plastic only.

Each dozen of one style and size is contained in a cut-out counter display carton, and the minimum order is six dozen assorted.

*Li-Lo Baby Pants are  
all tax free. Order now !*



## LI-LO baby pants

Made by P. B. COW & CO LTD • 12 HAY HILL • BERKELEY SQUARE W1



# DISPLAY- SELL- PROFIT!

There's both profit and prestige in Pifco Appliances. An assured demand is created by intensive National Advertising and attractive Show-cards and Folders.

Pifco Appliances are first in design and performance plus beautiful presentation.

If you are not yet a stockist, send today for illustrated literature on the Pifco range.

# PIFCO

PIFCO LTD.

(DEPT. 44) 59 GT. EASTERN ST., LONDON, E.C.2.  
AND AT MANCHESTER



SPECIALISTS IN THE  
MANUFACTURE OF



*Aspirin Salicylates  
and Allied Products*



APRIL 30—MAY 11  
EARLS COURT  
& OLYMPIA

SEE OUR EXHIBIT

OLYMPIA STAND B14

**Graesser Salicylates Ltd.**  
SANDYCROFT      NEAR CHESTER

Phone: HAWARDEN 2125      Grams: Quality Chester

**PATTINSON'S**  
Reg'd Brand  
**MAGNESIA**

B. P. QUALITY

Mag. Carb. Levis. • Mag. Carb. Pond.  
Mag. Oxide Levis • Mag. Oxide Pond.

Mag. Trisilicate

Mag. Hydrate. • Mist. Mag. Hydrox.

SUPPLIED THROUGH ALL WHOLESALERS  
BY THE SOLE MANUFACTURERS:

**THE WASHINGTON CHEMICAL CO., LTD.**  
(A MEMBER OF THE TURNER AND NEWALL ORGANISATION)  
WASHINGTON.      COUNTY DURHAM

LONDON OFFICE:  
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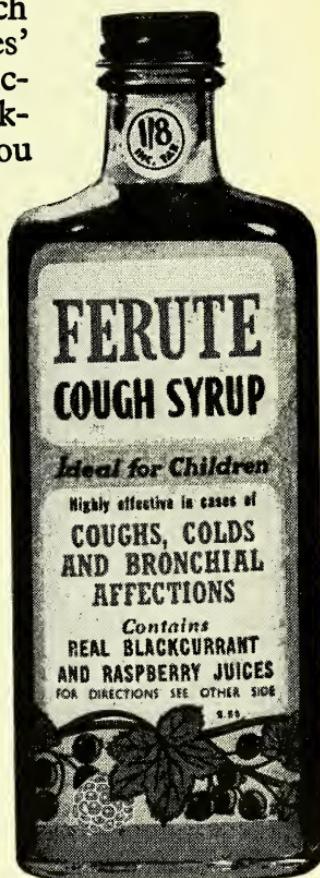
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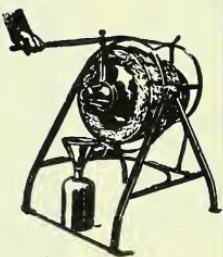
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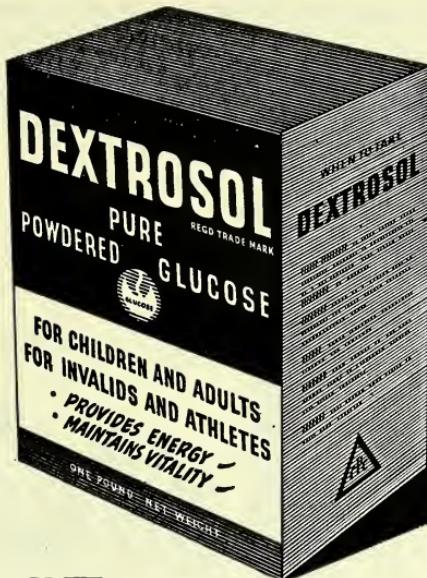
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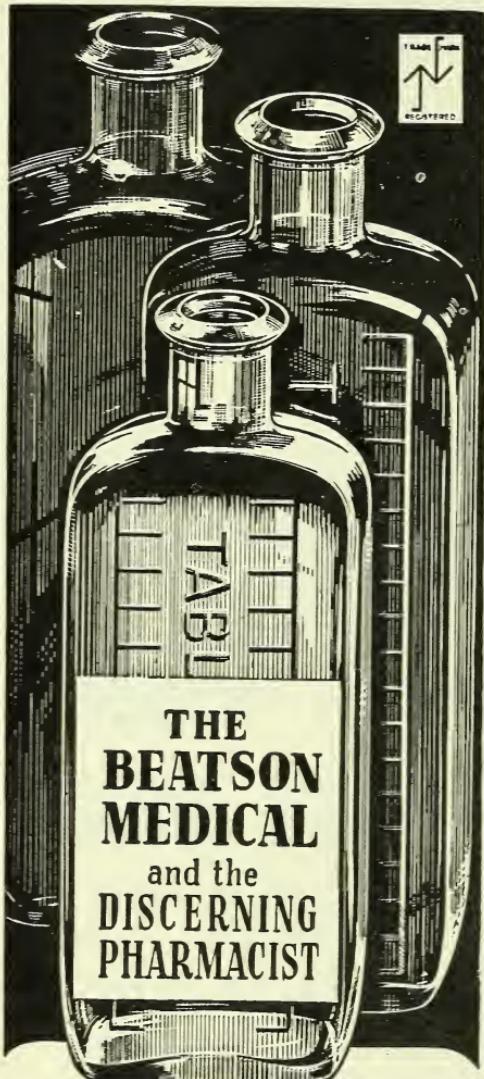
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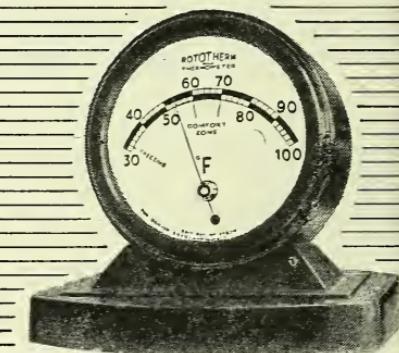
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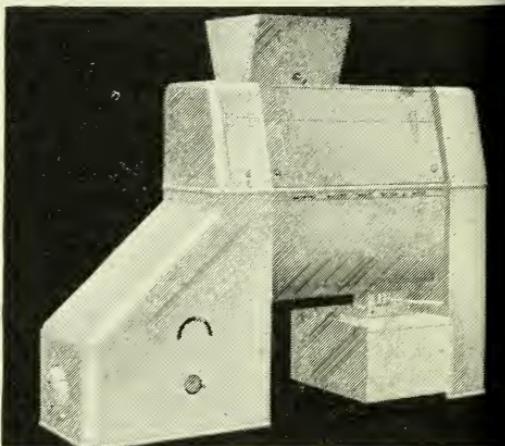
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# Original Display Idea Increases Chemist's Sales

"I took a look round my shop one day. And I saw something I hadn't really noticed before. My counter and shelves were full of displays that weren't necessary! And it's probably the same in *your* shop, too. We chemists clutter up our shops with displays of day-to-day lines which our customers would ask for anyway — because they don't need a reminder.

## Money making idea

That's how I got my idea. I realised that now, more than ever, the public is looking for *quality and value* — and I was



looking for extra *profit*. So I looked around for a line which my customers needed, but perhaps wouldn't ask for automatically. And I chose Ibcoll, the all purpose germicide and disinfectant. Why? Well, Ibcoll certainly has first-class quality — leading hospitals wouldn't use it otherwise; as for value, I know from personal experience that Ibcoll is so concentrated it goes much further than ordinary fluids, and it's so reasonably priced. It certainly brings me extra profit because it's a heavily advertised line and my customers ask for a bottle as soon as they see the prominent display on my counter."

★ ★ ★ ★

Why not help yourself to this regular *extra* income by giving Ibcoll display priority in *your* shop?



**HERE IT IS!** Ibcoll comes in these handy, attractive display cartons containing  $\frac{1}{2}$  doz. 2/- economy size or 1 doz. 1/3d. size. For the little space they take up these cartons will yield you handsome, regular profits. If you have supply difficulties, write to Ibbetson, Barking, Essex.

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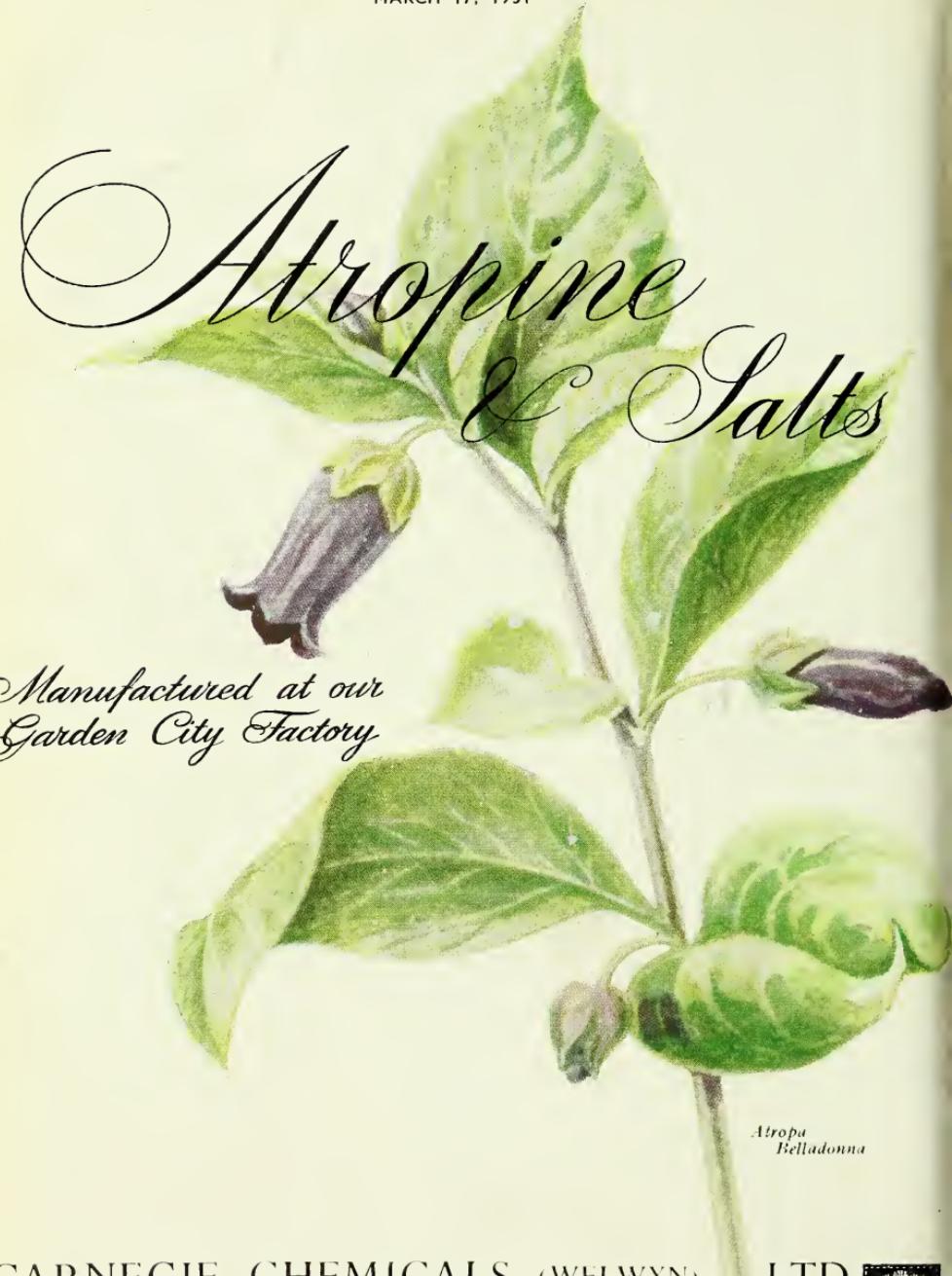


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